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Census of Manufactures

MC82-I-26B

INDUSTRY SERIES

Converted Paper and Paperboard Products, Except Containers and Boxes

Industries 2641, 2642, 2643, 2645, 2646, 2647, 2648, and 2649



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The publications
from the 1982 Economic and
Agriculture Censuses are dedicated
to the memory of Shirley Kallek,
Associate Director for Economic Fields.
During her career at the Bureau of the
Census (1955 to 1983), she continually
directed efforts to improve
the timeliness and accuracy of
economic statistics.

1982

Census of Manufactures

MC82-I-26B

INDUSTRY SERIES

Converted Paper and Paperboard Products, Except Containers and Boxes

2641	Paper Coating and Glazing
2642	Envelopes
2643	Bags, Except Textile Bags
2645	Die-Cut Paper and Board
2646	Pressed and Molded Pulp Goods
2647	Sanitary Paper Products
2648	Stationery Products
2649	Converted Paper Products, N.E.C.

Issued March 1985



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INDUSTRY DIVISION
Gaylord E. Worden, Chief

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INTRODUCTION

ECONOMIC CENSUSES OVER TIME

The early beginnings of America's industrial output were first measured in the United States in the 1810 Decennial Census and again in 1820, when questions on manufacturing were included with those for population. Beginning with the 1840 Decennial Census, there were enumerations of manufactures and mineral industries at 10-year intervals up to and including the year 1900 for manufactures and 1940 for mineral industries. The latter census was again taken for 1954, 1958, 1963, and 1967.

Because of the increasing dominance of manufacturing in the early 20th century, Congress directed that quinquennial censuses of manufactures be taken beginning in 1905. However, from 1919 through 1939, these censuses were conducted every 2 years. The need for war-related current surveys in the early 1940's postponed the next census of manufactures until 1948 (for 1947). That census was again taken for 1954, 1958, 1963, and 1967.

Retail and wholesale trade data were first collected in 1930, and in 1933 information on selected service industries was added to the data-collection operation. These business censuses, as they were called, were again taken for 1935, 1939 (as part of the 1940 decennial program), 1948, 1954, 1958, 1963, and 1967.

Information on construction industries was obtained first in 1930 and again for 1935 and 1939. Data for the full spectrum of construction industries were not gathered again until 1968 (for 1967).

The need for transportation data to supplement information available from existing governmental or private sources was recognized by Congress in the late 1950's and early 1960's. The census of transportation (consisting of several surveys) was taken first for 1963 and again for 1967.

Since 1967, all of the above censuses have been taken quinquennially as part of the Census Bureau's economic census program. (For the 1977 censuses, the coverage of the service industries was broadened from "selected services" to "all services, except religious organizations and private households." A total of 41 additional four-digit standard industrial classifications¹ (SIC's) in 7 SIC major groups was added to the scope of the census. While most of the industries included for the first time for 1977 were covered again for 1982, some were not, i.e., hospitals; elementary and secondary schools; colleges, universities, and professional schools; junior colleges and technical institutes; labor unions and similar labor organizations; and political organizations.)

The first manufacturing census for an outlying area was conducted in Puerto Rico for the year 1909. Thereafter, with the exception of 1929, a census was taken at 10-year intervals through 1949. The first censuses of retail trade, wholesale trade, and selected service industries in Puerto Rico were conducted for 1939. These censuses also were taken for the years 1949, 1954, 1958, 1963, and 1967. A census of construction industries was introduced first in Puerto Rico for 1967. These censuses of Puerto Rico have been taken since then for the years 1972, 1977, and 1982.

Censuses of manufactures, retail trade, wholesale trade, and selected service industries were conducted in Guam and the

Virgin Islands of the United States for 1958, 1963, 1967, 1972, 1977, and 1982. Censuses of mineral industries were taken in the Virgin Islands of the United States for the years 1958, 1963, and 1967 but not since that time. A census of construction industries was also undertaken in these areas for 1972, 1977, and 1982.

Retail trade, wholesale trade, selected service industries, manufacturing, and construction industries were canvassed for the first time in the Northern Mariana Islands in 1983 (for 1982).

For 1982, the economic censuses and agriculture censuses were conducted concurrently.

USES OF THE ECONOMIC CENSUSES

The economic censuses are the major source for facts about the structure and functioning of the Nation's economy and provide essential information for government, business, industry, and the general public. They provide an important part of the framework for such composite measures as the gross national product, input-output measures, indexes of industrial production, and indexes measuring productivity and price levels. Information from the censuses is used to establish sampling frames and as benchmarks for current surveys of business activity, which are essential for measuring short-term economic conditions.

State and local governments use census data to assess business activities within their jurisdictions. The private sector uses the data to forecast general economic conditions; analyze sales performance; lay out sales territories; allocate funds for advertising; decide on locations for new plants, warehouses, or stores; and measure potential markets in terms of size, geographic areas, kinds of business, and kinds of products made or sold.

Following every census, thousands of businesses and other users purchase reports. Likewise, census facts are disseminated widely by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. All 1982 data are available on microfiche from the U.S. Government Printing Office and most data on computer tape from the Census Bureau. Finally, the more than 50 State Data Centers also are suppliers of economic census statistics.

AUTHORITY AND SCOPE OF THE ECONOMIC CENSUSES

The economic censuses are required by law under title 13 of the United States Code, sections 131, 191, and 224, which directs that they be taken at 5-year intervals for the years ending in 2 and 7. The 1982 Economic Censuses covered manufacturing, mining, construction industries, retail trade, wholesale trade, service industries, and selected transportation activities. Special programs also cover minority-owned and women-owned businesses. The next economic censuses are scheduled to be taken in 1988 for the year 1987.

¹Standard Industrial Classification Manual: 1972. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Stock No. 041-001-00066-6. 1977 Supplement. Stock No. 003-00500176-0.

CENSUS OF MANUFACTURES

General

The 1982 Census of Manufactures is the 31st census of manufactures of the United States. For 1982, it was conducted jointly with the censuses of mineral industries, construction industries, retail and wholesale trades, service industries, selected transportation activities, and minority-owned and women-owned businesses.

This report, from the 1982 Census of Manufactures, is one of a series of 82 industry reports, each of which provides statistics for groups of related industries. Additional separate reports will be issued for each State and on special subjects, such as size of establishments, legal form of organization, and fuels and electric energy consumed.

These separate reports will subsequently be issued as portions of the final census volumes. Volume I, Subject Statistics, will show comparative statistics for industries, States, and standard metropolitan statistical areas. It also will show selected subjects, such as concentration ratios in manufacturing, selected materials consumed, manufacturing activity in government establishments, and water use in manufacturing. Volume II, Industry Statistics, will be a consolidation of reports for the 82 groups of industries showing the same information that is shown in this report. Volume III, Geographic Area Statistics, will contain establishment-based data (number of establishments, employment, payroll, value added by manufacture, and capital expenditures) for each State and its important standard metropolitan statistical areas, counties, and places, by industry groups and important individual industries. Totals for "all manufacturing" will be shown for counties and places with more than 450 manufacturing employees. The introduction to the final volumes will discuss, at greater length, many of the subjects described in this introduction. For example, the volume text will discuss the relationship of value added by manufacture to National income by industry of origin, the changes in statistical concepts over the history of the censuses, and the valuation problems arising from intracompany transfers between manufacturing plants of a company and between manufacturing plants and sales offices and sales branches of a company.

Scope of Census and Definition of Manufacturing Industries

The 1982 Census of Manufactures covers all establishments employing one person or more primarily engaged in manufacturing as defined in the 1972 Standard Industrial Classification (SIC) Manual and its 1977 Supplement.¹ This is the system of industrial classification developed over a period of years by experts on classification in government and private industry under the guidance of the Office of Management and Budget. This system of classification is in general use among government agencies as well as organizations outside the government.

The SIC manual defines manufacturing as the mechanical or chemical transformation of inorganic or organic substances into new products. The assembly of component parts of products is also considered to be manufacturing if the resulting product is neither a structure nor other fixed improvement. These activities are usually carried on in plants, factories, or mills that characteristically use power-driven machines and materials handling equipment.

¹Standard Industrial Classification Manual: 1972. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Stock No. 041-001-00066-6. 1977 Supplement. Stock No. 003-00500176-0.

IV INTRODUCTION

Manufacturing production is usually carried on for the wholesale market, for transfers to other plants of the same company, or to the order of industrial users rather than for direct sale to the household consumer. Some manufacturers in a few industries sell chiefly at retail to household consumers through the mail, through house-to-house routes, or through salespersons. Some activities of a service nature (enameling, engraving, etc.) are included in manufacturing when they are performed primarily for the trade. They are considered nonmanufacturing when they are performed primarily to the order of the household consumer.

Relationship Between Annual Survey of Manufactures and Census of Manufactures

The Bureau of the Census conducts the annual survey of manufactures (ASM) in each of the 4 years between the censuses of manufactures. The ASM is based on a scientifically selected sample of approximately 55,000 establishments and collects the same industry statistics (employment, payroll, value of shipments, etc.) as the census of manufactures. In addition to collecting the information normally requested on the census form, the establishments in the ASM sample are requested to supply detailed information on assets, capital expenditures, retirements, depreciation, rental payments, supplemental labor costs, and costs of purchased services.

Establishment Basis of Reporting

The census of manufactures and the annual survey of manufactures are conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1982, as in earlier years, a minimum size limit was set for including establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company (see Auxiliaries).

Manufacturing Universe and Census Report Forms

The 1982 Census of Manufactures universe includes approximately 345,000 establishments. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures. The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in this publication are described below.

1. Small Single-Unit Companies Not Sent a Report Form

In the 1982 Census of Manufactures, approximately 140,000 small single-establishment companies were excluded from filing reports. Selection of these small

establishments was done on an industry-by-industry basis and was based on annual payroll and total shipments data as well as on the industry classification codes contained in the administrative records of other Federal agencies. The cutoffs were selected so that these administrative records cases would account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed report forms.

Information on the physical location of the establishment, as well as information on payrolls, receipts (shipments), and industry classification, was obtained from the administrative records of other Federal agencies under special arrangements, which safeguarded their confidentiality. Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these establishments but were included in the product and material "not specified by kind" (n.s.k.) categories.

The industry classification codes included in the administrative records files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to the four-digit SIC level. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes these administrative record cases were given only a two- or three-digit SIC group. For the 1982 Census of Manufactures, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the four-digit SIC level. Establishments that did not return the classification form were coded later to those four-digit SIC industries identified as "not elsewhere classified" (n.e.c.) within the given two- or three-digit industry groups.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassifications have no significant effect on the statistics other than on the number of establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments Sent a Report Form

The 205,000 establishments covered in the mail canvass were divided into three groups:

a. **ASM sample establishments**—This group consisted of approximately 55,000 establishments covering all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size (see appendix, Annual Survey of Manufactures).

In a census of manufactures year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll,

and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply information on assets, capital expenditures, retirements, depreciation, rental payments, supplemental labor costs, and costs of purchased services. Results of the ASM inquiries are included in tables 3c and 3d of this report.

The census part of the report form is one of approximately 200 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the approximately 450 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries, as well as secondary products and miscellaneous services that establishments classified in these industries were likely to be performing. Respondents were requested to identify the products, the value of each product, and, in a large number of cases, the quantity of the product shipped during the survey year. Space was also provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry, which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

Finally, a wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. **Large and medium establishments (non-ASM)**—Approximately 100,000 establishments were included in this group. A variable cutoff, based on administrative records payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive one of the approximately 200 census of manufactures regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. **Small single-unit establishments (non-ASM)**—This group consisted of approximately 50,000 establishments. For those industries where application of the variable cutoff for administrative records cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or "short" form was used. These establishments received one of the approximately 80 versions of the short form, which requested summary product and material data and totals but no details on employment, payrolls, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics; the same

data were collected on the short as well as the long form. However, detailed information on materials consumed was not collected on the short form; thus its use would increase the values of the n.s.k. categories.

Auxiliaries

In this industry report, the data on employment and payroll are limited to operating manufacturing establishments. The census report form filed for auxiliaries (ES-9200) requested a description of the activity of the establishments serviced. However, the auxiliaries were coded only to the two-digit major group of the establishments they served; whereas, the operating establishments were coded to a four-digit manufacturing industry. Data for the approximately 10,000 separately operated auxiliaries are included in the paperbound geographic area series, the bound volumes of the census of manufactures, and in a report issued as part of the 1982 Enterprise Statistics survey.

Auxiliaries are establishments whose employees are primarily engaged in performing supporting services for other establishments of the same company, rather than for the general public or for other business firms. They can be at different locations from the establishments served or at the same location as one of those establishments but not operating as an integral part thereof and serving two or more establishments. Where auxiliary operations are conducted at the same location as the manufacturing operation and operate as an integral part thereof, they usually are included in the report for the operating manufacturing establishment.

Included in the broad category of auxiliaries are administrative offices. Employees in administrative offices are concerned with the general management of multiestablishment companies, i.e., with the general supervision and control of two units or more, such as manufacturing plants, mines, sales branches, or stores. The functions of these employees may include (1) program planning, including sales research and coordination of purchasing, production, and distribution; (2) company purchasing, including general contracts and purchasing methods; (3) company financial policy and accounting, tax accounting, company sales and profit reports, and personnel accounting; (4) general engineering, including design of product machinery and equipment, and direction of engineering effort conducted at the individual operation locations; (5) direction of company personnel matters; and (6) legal and patent matters.

Other types of auxiliaries serving the plants or central management of the company include purchasing offices, sales promotion offices, research and development organizations, etc.

Industry Classification of Establishments

Each of the establishments covered in the census was classified in one of approximately 450 manufacturing industries in accordance with the industry definitions in the SIC system. Under this system of classification, an industry is generally defined as a group of establishments producing a single product or a closely related group of products. The product groupings from which industry classifications are derived are based on considerations such as similarity of manufacturing processes, types of materials used, types of customers, and the like. The resulting group of plants must be significant in terms of its number, value added by manufacture, value of shipments, and number of employees. The system operates in such a way that the definitions progressively became narrower with successive additions of numerical digits. There are 20 major groups (two-digit SIC), 143 industry groups (three-digit SIC), and approximately 450

industries (four-digit SIC). The product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. There are about 1,500 classes of products, identified by a five-digit code, and about 11,000 products, identified by a seven-digit code. The seven-digit products are considered the primary products of the industry with the same four digits.

Accordingly, an establishment is usually classified in a particular industry on the basis of its major activity during a particular year, i.e., production of the products primary to that industry exceeds, in value, production of the products primary to any other single industry. In a few instances, however, the industry classification of an establishment is not only determined by the products it makes but also by the process employed in making those products. For example, establishments engaged in blast furnace operations, refining of nonferrous metals from ore, or rolling and drawing of nonferrous metals (processes which involve heavy capitalization in specialized equipment) would be classified according to the process used during a census year. These establishments then would be "frozen" in that industry during the following ASM years.

In either a census or ASM year, establishments included in the ASM sample with certainty weight, other than those involved with heavily capitalized activities described above, are reclassified by industry only if the change in the primary activity from the prior year is significant or the change has occurred for two successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year (see appendix, Annual Survey of Manufactures). However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The result of these rules covering the switching of plants from one industry classification to another is that, at the aggregate level, some industries comprise different mixes of establishments between survey years, and establishment data for such industry statistics as employment and payroll may be tabulated in different industries between survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the four-digit SIC level, should be viewed with caution. This is true particularly for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of establishments.

While some establishments produce only the primary products of the industry in which they are classified, all establishments of an industry rarely specialize to this extent. The industry statistics (employment, inventories, value added by manufacture, total value of shipments including resales and miscellaneous receipts, etc.) shown in tables 1a through 5a, therefore, reflect not only the primary activities of the establishments in that industry but also their secondary activities. The product statistics in tables 6a through 6c represent the output of all establishments whether or not they are classified in the same industry as the product. For this reason, in relating the industry statistics, especially the value of shipments to the product statistics, the

composition of the industry's output shown in table 5b should be considered.

The extent to which industry and product statistics may be matched with each other is measured by two ratios, which are computed from the figures shown in table 5b. The first of these ratios, called the primary product specialization ratio, measures the proportion of product shipments (both primary and secondary) of the establishments classified in the industry represented by the primary products of those establishments. The second ratio, called the coverage ratio, is the proportion of primary products shipped by the establishments classified in the industry to total shipments of such products by all manufacturing establishments.

However, establishments making products falling into the same industry category may use a variety of processes and materials to produce them. Also, the same industry classification (based on end products) may include both establishments that are highly integrated and those that put only the finishing touches on an already highly fabricated item. For example, the refrigeration industry includes instances of almost complete integration (production of the compressor, condensing unit, electric motor, casting, stamping of the case, and final assembly) all carried on at one plant. On the other hand, the condensing unit, the motor, and the case may be purchased and only assembled into the finished product.

In some instances, separate industry categories have been established for integrated and nonintegrated establishments. For other industries, the census provides separate statistics on the production of intermediate commodities made and used in the producing plant. For some industries characterized by many plants of the same company, separate figures on interplant transfer of products usually are shown.

Differences in the integration of production processes, types of operations, and alternatives in types of materials used should be considered when relating the industry statistics (employment, payrolls, value added, etc.) to the product and material data.

Value of Shipments for the Industry Compared With Value of Product Shipments

This industry report shows value of shipments data for industries and products. In tables 1a through 5a, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Product shipments shown in table 6a represent the total value of shipments of products classified as primary to an industry that were shipped by all manufacturing establishments regardless of their industry classification.

CENSUS DISCLOSURE RULES

In accordance with Federal law governing census reports, no data are published that would disclose the data for an individual establishment or company. However, the number of establishments classified in a specific industry is not considered a disclosure, so this item may be given even though other information is withheld.

The disclosure analysis for the industry statistics in tables 1a through 5a of this report is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line has been suppressed. However, the suppressed data are included in higher level totals. Additional disclosure analysis is performed for new capital expenditures that can be suppressed even though value of shipments data are publishable.

MICROFICHE AND COMPUTER TAPES

All the data in this report are available on microfiche. Selected data are also available on computer tape.

In addition to selected published data being on computer tape, one major data series, the location of manufacturing plants, will be available only on computer tape. This series presents the number of establishments by employment size class by four-digit SIC industry codes for States, counties, and places of 2,500 inhabitants or more. These data are available for both State and county by industry, and State and place by industry.

Microfiche reports are sold by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Computer tapes are sold by the Data User Services Division, Customer Services (Tapes), Bureau of the Census, Washington, D.C. 20233.

SPECIAL TABULATIONS

Special tabulations of data collected in the 1982 Census of Manufactures may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief, Industry Division, Bureau of the Census, Washington, D.C. 20233.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

- Represents zero.
- (D) Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
- (NA) Not available.
- (NC) Not comparable.
- (S) Withheld because estimate did not meet publication standards on the basis of either the response rate or a consistency review.
- (X) Not applicable.
- (Z) Less than half the unit shown.
- n.e.c. Not elsewhere classified.
- n.s.k. Not specified by kind.
- pt. Part.
- r Revised.
- SIC Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

Users' Guide for Locating Statistics

[For explanation of terms, see appendixes]

	Item	Four-digit industry statistics		
		Historical	Operating ratios	By geographic area
1	Number of companies	1a		
2	Number of manufacturing establishments	1a		2
	Employment and payroll:			
3	Number of employees	1a	1b	2
4	Payroll	1a	1b	2
5	Supplemental labor costs			
6	Production workers	1a	1b	2
7	Production-worker hours	1a	1b	2
8	Production-worker wages	1a	1b	2
	Shipments, cost of materials, and value added:			
9	Value of shipments (four-digit)	1a	1b	2
10	Product class shipments (five-digit)			
11	Product shipments (seven-digit)			
12	Value added by manufacture	1a	1b	2
13	Cost of materials	1a	1b	2
14	Fuels and electric energy			
15	Materials consumed by kind			
	Inventories:			
16	Total, end of year	1a		
17	By method of valuation			
18	By stage of fabrication			
	Capital expenditures, assets, rental payments, and purchased services:			
19	New capital expenditures	1a		2
20	Used plant and equipment expenditures			
21	Gross assets			
22	Depreciation			
23	Retirements of buildings and machinery			
24	Rental payments			
25	Purchased services			
	Ratios:			
26	Specialization	1a		
27	Coverage	1a		

*Number of companies with shipments of over \$100 thousand.

**Detailed information shown.

in This Report by Table Number

Four-digit industry statistics—Con.				Five-digit product class and seven-digit product statistics				
Summary and supplemental	By employment size	By industry and product class specialization	Materials consumed by kind	Industry-product analysis	Product shipments	Product class by geographic area	Historical product class	
3a					* 6a			1
** 3a	4	5a						2
3a	4	5a						3
3a	4	5a						4
** 3d								5
** 3a	4	5a						6
** 3a	4	5a						7
3a	4	5a						8
3a	4	5a		5b, 5c				9
				5b, 5c	6a	6b	6c	10
					6a			11
3a	4	5a						12
** 3a	4	5a						13
3a, 3d			7					14
								15
3b, 3c	4							16
3b, 3c								17
3b								18
** 3a, ** 3d	4	5a						19
** 3a, ** 3d								20
** 3d								21
** 3d								22
** 3d								23
** 3d								24
** 3d								25
3a				5b				26
3a				5b				27

Converted Paper and Paperboard Products, Except Containers and Boxes

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DESCRIPTION OF INDUSTRIES AND SUMMARY OF FINDINGS

CONVERTED PAPER AND PAPERBOARD PRODUCTS, EXCEPT CONTAINERS AND BOXES

This report shows 1982 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title

2641	Paper Coating and Glazing
2642	Envelopes
2643	Bags, Except Textile Bags
2645	Die-Cut Paper and Board
2646	Pressed and Molded Pulp Goods
2647	Sanitary Paper Products
2648	Stationery Products
2649	Converted Paper Products, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (cutoff varied by industry) were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification (SIC) Manual and its 1977 supplement.¹

INDUSTRY 2641, PAPER COATING AND GLAZING

This industry comprises establishments primarily engaged in the manufacture of coated, glazed, or varnished paper from purchased paper. Also included are establishments primarily engaged in the manufacture of pressure sensitive tape with backing of any material other than rubber. Establishments primarily

engaged in the manufacture of carbon paper are classified in industry 3955, and photographic and blueprint paper in industry 3861.

In the 1982 Census of Manufactures, Industry 2641, Paper Coating and Glazing, recorded employment of 43.1 thousand. The total value of shipments for establishments classified in this industry was \$5.5 billion.

The value of shipments figure shown above is in current (1982) prices. All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The employment figure shown above was 9 percent above the 39.7 thousand reported in 1977. The leading States in employment in 1982 were Massachusetts, Wisconsin, Illinois, and Ohio, accounting for approximately 39 percent of the industry's 1982 employment. These same States were the leaders in 1977, when they accounted for approximately 40 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

Compared with 1981, employment decreased 2 percent. The 1981 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

Establishments in virtually all industries ship secondary products as well as products primary to the industry to which they are classified and have some miscellaneous receipts, such as resales and contract receipts. In current prices, industry 2641 shipped \$4.1 billion of products primary to the industry, \$1.1 billion of secondary products, and had \$187 million of miscellaneous receipts. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in the industry was 79 percent (specialization ratio). In 1977, this specialization ratio was 80 percent.

Establishments in this industry also accounted for 84 percent of products considered primary to the industry no matter where they actually were produced (coverage ratio). In 1977, the coverage ratio was 86 percent. The products primary to industry 2641, no matter in what industry they were produced, appear in table 6a and aggregate to \$4.9 billion in current prices.

The total cost of materials and services used by establishments classified in the paper coating and glazing industry amounted to \$3.1 billion in current prices. Data on specific materials consumed appear in table 7.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of total value of shipments.

¹Standard Industrial Classification Manual: 1972. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Stock No. 041-001-00066-6. 1977 Supplement. Stock No. 003-005-00176-0.

INDUSTRY 2642, ENVELOPES

This industry comprises establishments primarily engaged in the manufacture of envelopes of any description from purchased paper and paperboard. Establishments primarily engaged in the manufacture of stationery envelopes, defined as manufactured for personal and social use, are classified in industry 2648.

In the 1982 Census of Manufactures, Industry 2642, Envelopes, recorded employment of 24.4 thousand. The total value of shipments for establishments classified in this industry was \$1.8 billion.

The value of shipments figure shown above is in current (1982) prices. All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The employment figure shown above was 8 percent above the 22.6 thousand reported in 1977. The leading States in employment in 1982 were New York, California, Illinois, and Massachusetts, accounting for approximately 40 percent of the industry's 1982 employment. These same States were the leaders in 1977, when they also accounted for approximately 40 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

Compared with 1981, employment decreased 5 percent. The 1981 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

Establishments in virtually all industries ship secondary products as well as products primary to the industry to which they are classified and have some miscellaneous receipts, such as resales and contract receipts. In current prices, industry 2642 shipped \$1.6 billion of products primary to the industry, \$38 million of secondary products, and had \$90 million of miscellaneous receipts. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in the industry was 98 percent (specialization ratio). In 1977, this specialization ratio was 97 percent.

Establishments in this industry also accounted for 94 percent of products considered primary to the industry no matter where they actually were produced (coverage ratio). In 1977, the coverage ratio was 93 percent. The products primary to industry 2642, no matter in what industry they were produced, appear in table 6a and aggregate to \$1.8 billion in current prices.

The total cost of materials and services used by establishments classified in the envelopes industry amounted to \$920 million in current prices. Data on specific materials consumed appear in table 7.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 2643, BAGS, EXCEPT TEXTILE BAGS

This industry comprises establishments primarily engaged in the manufacture of bags from purchased paper, cellophane,

acetate, polyethylene, polypropylene, pliofilm, foil, and similar sheet or film materials. Establishments primarily engaged in the manufacture of textile bags are classified in industry 2393.

In the 1982 Census of Manufactures, Industry 2643, Bags, Except Textile Bags, recorded employment of 50.2 thousand. The total value of shipments for establishments classified in this industry was \$5.0 billion.

The value of shipments figure shown above is in current (1982) prices. All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The employment figure shown above was 3 percent above the 48.7 thousand reported in 1977. The leading States in employment in 1982 were New York, Illinois, Georgia, and California, accounting for approximately 31 percent of the industry's 1982 employment. These same States were the leaders in 1977, when they accounted for approximately 35 percent of the industry's employment.

Compared with 1981, employment decreased 8 percent. The 1981 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

Establishments in virtually all industries ship secondary products as well as products primary to the industry to which they are classified and have some miscellaneous receipts, such as resales and contract receipts. In current prices, industry 2643 shipped \$4.4 billion of products primary to the industry, \$556 million of secondary products, and had \$103 million of miscellaneous receipts. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in the industry was 89 percent (specialization ratio). In 1977, this specialization ratio was 88 percent.

Establishments in this industry also accounted for 92 percent of products considered primary to the industry no matter where they actually were produced (coverage ratio). In 1977, the coverage ratio was 90 percent. The products primary to industry 2643, no matter in what industry they were produced, appear in table 6a and aggregate to \$4.8 billion in current prices.

The total cost of materials and services used by establishments classified in the bags, except textile bags, industry amounted to \$3.0 billion in current prices. Data on specific materials consumed appear in table 7.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 2645, DIE-CUT PAPER AND BOARD

This industry comprises establishments primarily engaged in the die-cutting of purchased paper and paperboard; and in the manufacture of cardboard by laminating, lining, or surface-coating paperboard. Establishments primarily engaged in laminating building paper or building board from purchased paper or board are classified in industry 2649.

In the 1982 Census of Manufactures, Industry 2645, Die-Cut Paper and Board, recorded employment of 15.9 thousand. The

total value of shipments for establishments classified in this industry was \$1.7 billion.

The value of shipments figure shown above is in current (1982) prices. All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The employment figure shown above was 11 percent above the 14.3 thousand reported in 1977. The leading States in employment in 1982 were New York, California, Illinois, and Pennsylvania, accounting for approximately 45 percent of the industry's 1982 employment. Data for Pennsylvania have been withheld to avoid disclosing data for individual companies. This represents a shift from 1977 when New York, New Jersey, Illinois, and Ohio accounted for approximately 45 percent of the industry's employment.

Compared with 1981, employment decreased 8 percent. The 1981 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

Establishments in virtually all industries ship secondary products as well as products primary to the industry to which they are classified and have some miscellaneous receipts, such as resales and contract receipts. In current prices, industry 2645 shipped \$1.5 billion of products primary to the industry, \$147 million of secondary products, and had \$76 million of miscellaneous receipts. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in the industry was 91 percent (specialization ratio). In 1977, this specialization ratio was 88 percent.

Establishments in this industry also accounted for 91 percent of products considered primary to the industry no matter where they actually were produced (coverage ratio). In 1977, the coverage ratio was 84 percent. The products primary to industry 2645, no matter in what industry they were produced, appear in table 6a and aggregate to \$1.6 billion in current prices.

The total cost of materials and services used by establishments classified in the die-cut paper and board industry amounted to \$975 million in current prices. Data on specific materials consumed appear in table 7.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 13 percent of total value of shipments.

INDUSTRY 2646, PRESSED AND MOLDED PULP GOODS

This industry comprises establishments primarily engaged in the manufacture of all kinds of pressed and molded pulp goods, including papier-mache articles, other than statuary and art goods (industry 3299). Establishments primarily engaged in the manufacture of plates and utensils from paper and paperboard are classified in industry 2654.

In the 1982 Census of Manufactures, Industry 2646, Pressed and Molded Pulp Goods, recorded employment of 3.2 thousand. The total value of shipments for establishments classified in this industry was \$236 million.

The value of shipments figure shown above is in current (1982) prices. All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The employment figure shown above was 35 percent below the 4.9 thousand reported in 1977. The leading States in employment in 1982 were Maine, California, Mississippi, and Indiana, accounting for approximately 65 percent of the industry's 1982 employment. Data for these States have been withheld to avoid disclosing data for individual companies. This represents a shift from 1977 when Maine, New York, California, and Illinois accounted for approximately 50 percent of the industry's employment.

Compared with 1981, employment did not change. The 1981 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

Establishments in virtually all industries ship secondary products as well as products primary to the industry to which they are classified and have some miscellaneous receipts, such as resales and contract receipts. In current prices, industry 2646 shipped \$236 million of products primary to the industry, no secondary products, and had \$100 thousand of miscellaneous receipts. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in the industry was 100 percent (specialization ratio). In 1977, this specialization ratio was 98 percent.

Establishments in this industry also accounted for 97 percent of products considered primary to the industry no matter where they actually were produced (coverage ratio). In 1977, the coverage ratio was 99 percent. The products primary to industry 2646, no matter in what industry they were produced, appear in table 6a and aggregate to \$242 million in current prices.

The total cost of materials and services used by establishments classified in the pressed and molded pulp goods industry amounted to \$99 million in current prices. Data on specific materials consumed appear in table 7.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 2647, SANITARY PAPER PRODUCTS

This industry comprises establishments primarily engaged in the manufacture of, from purchased paper, sanitary paper products, such as facial tissues and handkerchiefs, table napkins, toilet paper, towels, disposable diapers, and sanitary napkins and tampons. Establishments primarily engaged in the manufacture of premoistened towelettes are classified in industry 2844.

In the 1982 Census of Manufactures, Industry 2647, Sanitary Paper Products, recorded employment of 36.7 thousand. The total value of shipments for establishments classified in this industry was \$9.1 billion.

The value of shipments figure shown above is in current (1982) prices. All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for

changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The employment figure shown above was 6 percent above the 34.5 thousand reported in 1977. The leading States in employment in 1982 were Wisconsin, Pennsylvania, California, and New Jersey, accounting for approximately 45 percent of the industry's 1982 employment. Data for Pennsylvania have been withheld to avoid disclosing data for individual companies. These same States were the leaders in 1977; when they also accounted for approximately 45 percent of the industry's employment.

Compared with 1981, employment increased less than 1 percent. The 1981 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

Establishments in virtually all industries ship secondary products as well as products primary to the industry to which they are classified and have some miscellaneous receipts, such as resales and contract receipts. In current prices, industry 2647 shipped \$8.3 billion of products primary to the industry, \$494 million of secondary products, and had \$368 million of miscellaneous receipts. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in the industry was 94 percent (specialization ratio). In 1977, this specialization ratio was 93 percent.

Establishments in this industry also accounted for 98 percent of products considered primary to the industry no matter where they actually were produced (coverage ratio). In 1977, the coverage ratio was 99 percent. The products primary to industry 2647, no matter in what industry they were produced, appear in table 6a and aggregate to \$8.4 billion in current prices.

The total cost of materials and services used by establishments classified in the sanitary paper products industry amounted to \$4.7 billion in current prices. Data on specific materials consumed appear in table 7.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 2648, STATIONERY PRODUCTS

This industry comprises establishments primarily engaged in the manufacture of stationery, tablets, looseleaf fillers, and related items from purchased paper. Establishments primarily engaged in the manufacture of envelopes are classified in industry 2642.

In the 1982 Census of Manufactures, Industry 2648, Stationery Products, recorded employment of 12.6 thousand. The total value of shipments for establishments classified in this industry was \$1,034 million.

The value of shipments figure shown above is in current (1982) prices. All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The employment figure shown above was unchanged from the 12.6 thousand reported in 1977. The leading States in employment in 1982 were Massachusetts, Illinois, Missouri, and New York, accounting for approximately 40 percent of the industry's 1982 employment. Data for Missouri and New York have been withheld to avoid disclosing data for individual companies. This represents a shift from 1977 when Massachusetts, Missouri, Pennsylvania, and California accounted for approximately 45 percent of the industry's employment.

Compared with 1981, employment increased 6 percent. The 1981 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

Establishments in virtually all industries ship secondary products as well as products primary to the industry to which they are classified and have some miscellaneous receipts, such as resales and contract receipts. In current prices, industry 2648 shipped \$701 million of products primary to the industry, \$186 million of secondary products, and had \$147 million of miscellaneous receipts. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in the industry was 79 percent (specialization ratio). In 1977, this specialization ratio was 86 percent.

Establishments in this industry also accounted for 73 percent of products considered primary to the industry no matter where they actually were produced (coverage ratio). In 1977, the coverage ratio was 80 percent. The products primary to industry 2648, no matter in what industry they were produced, appear in table 6a and aggregate to \$959 million in current prices.

The total cost of materials and services used by establishments classified in the stationery products industry amounted to \$601 million in current prices. Data on specific materials consumed appear in table 7.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

INDUSTRY 2649, CONVERTED PAPER PRODUCTS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of, from purchased paper or paperboard, miscellaneous converted paper or paperboard products, not elsewhere classified. Establishments primarily engaged in the manufacture of sanitary products are classified in industry 2647. The paper stock used for wallpaper called "hanging paper" is classified in industry 2621. Establishments primarily engaged in the manufacture of stationery, tablets, and related products are classified in industry 2648.

In the 1982 Census of Manufactures, Industry 2649, Converted Paper Products, N.E.C., recorded employment of 27.2 thousand. The total value of shipments for establishments classified in this industry was \$2.4 billion.

The value of shipments figure shown above is in current (1982) prices. All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The employment figure shown above was 7 percent below the 29.4 thousand reported in 1977. The leading States in employment in 1982 were Tennessee, New York, Pennsylvania, and New Jersey, accounting for approximately 40 percent of the industry's 1982 employment. This represents a shift from 1977 when New York, Massachusetts, Pennsylvania, and Tennessee accounted for approximately 50 percent of the industry's employment.

Compared with 1981, employment decreased 10 percent. The 1981 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

Establishments in virtually all industries ship secondary products as well as products primary to the industry to which they are classified and have some miscellaneous receipts, such as resales and contract receipts. In current prices, industry 2649 shipped \$2.0 billion of products primary to the industry, \$313 million of secondary products, and had \$127 million of miscellaneous receipts. Thus, the ratio of primary products to the total

of both secondary and primary products shipped by establishments in the industry was 86 percent (specialization ratio). In 1977, this specialization ratio was 88 percent.

Establishments in this industry also accounted for 80 percent of products considered primary to the industry no matter where they actually were produced (coverage ratio). In 1977, the coverage ratio was 81 percent. The products primary to industry 2649, no matter in what industry they were produced, appear in table 6a and aggregate to \$2.4 billion in current prices.

The total cost of materials and services used by establishments classified in the converted paper products, n.e.c., industry amounted to \$1.2 billion in current prices. Data on specific materials consumed appear in table 7.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 10 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1982 and Earlier Years

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Year ¹	Com- panies ² (no.)	All establishments ³		All employees		Production workers			Value added by manufac- tures ⁴ (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expen- ditures (million dollars)	End-of- year invent- ories ⁴ (million dollars)	Ratios	
		Total (no.)	With 20 employ- ees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Special- ization (per- cent)	Cover- age (per- cent)
INDUSTRY 2641, PAPER COATING AND GLAZING															
1982 Census.....	498	574	298	43.1	882.4	29.5	59.1	529.3	2 330.5	3 117.2	5 454.0	200.8	715.3	79	84
1981 ASM.....	(NA)	(NA)	(NA)	42.2	805.8	28.5	58.0	473.9	2 103.6	3 077.9	5 146.0	199.8	672.3	(NA)	(NA)
1980 ASM.....	(NA)	(NA)	(NA)	45.8	753.1	29.8	60.8	437.5	1 902.9	2 805.0	4 688.1	174.5	639.8	(NA)	(NA)
1979 ASM.....	(NA)	(NA)	(NA)	49.8	680.9	36.1	63.5	414.1	1 726.7	2 473.3	4 229.6	151.2	602.1	(NA)	(NA)
1978 ASM.....	(NA)	(NA)	(NA)	41.3	615.7	28.4	57.9	378.6	1 633.6	2 128.4	3 746.2	91.0	520.4	(NA)	(NA)
1977 Census.....	454	529	239	39.7	551.2	27.2	56.8	335.1	1 507.0	1 908.3	3 392.0	98.7	451.2	80	86
1976 ASM.....	(NA)	(NA)	(NA)	39.3	512.7	26.8	56.1	319.6	1 366.9	1 751.2	3 073.7	92.0	403.2	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	36.6	437.4	24.8	49.1	265.8	1 199.4	1 386.8	2 626.1	107.5	358.3	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	40.8	456.5	28.5	59.2	286.9	1 347.7	1 454.8	2 644.7	84.0	446.1	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	39.3	408.3	27.3	59.1	264.1	1 190.6	1 109.6	2 284.6	69.8	304.3	(NA)	(NA)
1972 Census.....	366	426	217	37.2	366.6	26.5	55.7	231.9	984.4	984.8	1 954.0	52.3	256.7	76	86
1971 ASM.....	(NA)	(NA)	(NA)	38.4	342.5	27.1	55.8	210.9	912.3	932.1	1 831.8	42.4	246.4	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	38.3	327.1	27.3	56.1	200.7	880.4	877.2	1 749.9	76.6	228.2	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	38.9	314.5	27.7	59.1	197.9	828.7	911.8	1 721.8	77.4	247.2	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	33.7	258.7	24.0	52.8	161.9	659.1	809.0	1 443.2	59.1	185.2	(NA)	(NA)
1967 Census.....	334	397	202	37.1	260.8	27.0	56.4	165.6	728.0	843.3	1 566.5	59.1	173.7	79	87
INDUSTRY 2642, ENVELOPES															
1982 Census.....	196	296	217	24.4	428.7	19.0	37.0	287.5	853.6	919.9	1 771.3	45.1	210.4	98	94
1981 ASM.....	(NA)	(NA)	(NA)	25.6	393.8	20.3	39.8	268.8	770.7	837.1	1 600.7	38.1	182.6	(NA)	(NA)
1980 ASM.....	(NA)	(NA)	(NA)	25.6	362.0	20.4	39.6	246.9	741.1	734.1	1 460.4	55.2	177.9	(NA)	(NA)
1979 ASM.....	(NA)	(NA)	(NA)	24.9	329.8	19.8	38.8	225.7	665.7	648.6	1 303.6	38.7	155.8	(NA)	(NA)
1978 ASM.....	(NA)	(NA)	(NA)	22.9	295.6	17.9	35.5	200.2	556.0	569.3	1 120.7	29.3	131.4	(NA)	(NA)
1977 Census.....	182	265	184	22.6	270.0	17.6	34.6	182.4	503.4	493.4	990.5	22.9	122.2	97	93
1976 ASM.....	(NA)	(NA)	(NA)	21.7	247.0	16.8	33.0	163.4	440.6	434.0	870.2	22.7	109.1	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	21.9	233.7	16.9	33.0	152.0	426.9	399.9	829.6	19.1	107.7	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	24.3	235.3	19.3	38.2	159.5	472.2	405.9	868.0	19.2	122.3	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	23.3	210.4	18.8	38.1	145.7	382.4	312.2	690.1	21.1	92.5	(NA)	(NA)
1972 Census.....	178	247	183	22.9	194.6	18.4	37.3	134.7	347.1	276.1	620.8	17.4	73.5	96	95
1971 ASM.....	(NA)	(NA)	(NA)	22.4	181.7	17.8	35.6	123.7	314.2	260.4	573.5	23.1	71.6	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	23.4	178.3	18.8	38.6	122.8	318.4	259.8	574.3	21.6	68.4	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	23.5	164.6	18.9	38.6	113.6	307.0	246.7	552.1	18.0	66.0	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	22.9	151.2	18.3	37.3	104.1	271.0	224.6	493.0	16.2	61.0	(NA)	(NA)
1967 Census.....	172	228	163	22.5	141.9	18.1	37.6	98.0	253.1	219.5	470.3	13.4	58.4	95	96
INDUSTRY 2643, BAGS, EXCEPT TEXTILE BAGS															
1982 Census.....	448	577	381	50.2	850.9	39.9	78.7	597.7	2 055.5	2 972.5	5 037.6	140.8	690.3	89	92
1981 ASM.....	(NA)	(NA)	(NA)	54.7	884.0	43.3	87.7	606.8	2 123.6	3 523.8	5 613.4	165.7	713.6	(NA)	(NA)
1980 ASM.....	(NA)	(NA)	(NA)	54.9	809.0	43.7	87.0	559.7	2 007.5	3 247.3	5 214.6	163.6	640.6	(NA)	(NA)
1979 ASM.....	(NA)	(NA)	(NA)	52.7	730.2	42.1	83.4	509.8	1 772.5	2 832.9	4 578.8	129.7	560.0	(NA)	(NA)
1978 ASM.....	(NA)	(NA)	(NA)	49.5	639.1	39.5	80.3	444.5	1 561.2	2 382.8	3 925.7	135.1	452.5	(NA)	(NA)
1977 Census.....	461	596	355	48.7	584.1	38.8	77.6	411.7	1 349.6	2 140.5	3 482.3	93.4	424.9	88	90
1976 ASM.....	(NA)	(NA)	(NA)	50.7	549.7	40.9	79.5	388.2	1 363.8	2 026.8	3 379.5	93.9	415.0	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	48.8	482.5	39.4	73.2	335.2	1 215.9	1 756.6	2 980.1	94.5	385.2	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	51.6	468.4	42.3	84.6	336.5	1 326.1	1 590.5	2 867.1	65.5	382.3	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	49.5	411.7	39.5	79.6	300.0	962.5	1 214.1	2 182.6	51.8	244.4	(NA)	(NA)
1972 Census.....	466	583	331	48.6	385.5	38.9	78.9	279.4	840.5	1 055.1	1 885.7	53.9	225.1	88	88
1971 ASM.....	(NA)	(NA)	(NA)	50.3	373.0	40.7	81.7	269.9	740.1	1 031.3	1 771.9	94.9	213.5	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	53.2	363.4	43.1	87.0	261.1	713.7	1 008.8	1 711.3	81.4	212.5	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	49.6	323.0	39.3	81.1	223.9	674.2	892.3	1 559.1	46.0	185.3	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	47.4	303.9	38.0	79.5	215.6	649.6	836.6	1 482.8	37.0	166.8	(NA)	(NA)
1967 Census.....	466	557	310	46.3	278.3	37.1	75.6	197.4	563.7	819.4	1 375.6	45.6	163.6	86	88
INDUSTRY 2645, DIE-CUT PAPER AND BOARD															
1982 Census.....	358	398	171	15.9	245.9	12.6	23.7	168.6	708.7	975.4	1 680.1	32.7	191.5	91	91
1981 ASM.....	(NA)	(NA)	(NA)	17.2	258.1	13.2	24.9	166.8	683.5	1 004.6	1 676.6	⁵ 23.2	179.4	(NA)	(NA)
1980 ASM.....	(NA)	(NA)	(NA)	16.6	229.3	12.7	24.0	147.3	610.2	857.0	1 453.5	⁵ 41.0	158.5	(NA)	(NA)
1979 ASM.....	(NA)	(NA)	(NA)	17.0	217.2	13.1	25.2	144.0	649.7	836.4	1 468.2	⁵ 32.7	155.3	(NA)	(NA)
1978 ASM.....	(NA)	(NA)	(NA)	15.1	194.8	11.8	23.1	129.6	477.8	716.4	1 188.6	26.4	118.3	(NA)	(NA)
1977 Census.....	316	371	141	14.3	174.6	11.3	22.7	119.6	429.5	640.9	1 057.7	15.3	114.3	88	84
1976 ASM.....	(NA)	(NA)	(NA)	15.3	169.4	11.8	23.2	112.8	402.6	626.4	1 027.3	⁵ 28.6	98.9	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	14.8	155.8	11.5	22.4	105.5	373.0	566.3	942.9	⁵ 17.1	97.8	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	16.5	159.3	12.9	25.5	109.2	394.3	534.1	923.3	23.3	105.5	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	15.9	145.0	12.2	24.7	99.1	331.4	421.6	747.4	12.9	67.5	(NA)	(NA)
1972 Census.....	311	374	159	15.2	132.5	11.8	23.7	90.5	301.6	375.7	676.3	10.6	57.7	89	89
1971 ASM.....	(NA)	(NA)	(NA)	17.3	136.0	13.3	27.0	92.4	303.4	337.0	638.3	16.1	63.6	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	18.2	136.7	14.1	28.5	91.1	271.5	341.0	612.5	17.8	59.8	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	18.9	134.7	14.6	29.9	89.8	270.2	360.4	627.5	17.6	61.9	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	19.1	131.6	14.6	30.0	86.6	260.5	285.5	548.3	14.8	53.2	(NA)	(NA)
1967 Census.....	368	440	189	18.6	117.3	14.7	29.4	79.9	247.3	329.1	577.5	9.0	56.1	86	86
INDUSTRY 2646, PRESSED AND MOLDED PULP GOODS															
1982 Census.....	23	32	21	3.2	60.7	2.6	5.3	47.9	140.8	99.3	236.2	7.1	28.6	100	97
1981 ASM.....	(NA)	(NA)	(NA)	3.2	60.5	2.7	5.9	48.6	128.0	108.7	238.6	2.5	23.0	(NA)	(NA)
1980 ASM.....	(NA)	(NA)	(NA)	4.4	74.4	3.6	7.6	58.9	110.9	110.5	224.7	10.2	25.3	(NA)	(NA)
1979 ASM.....	(NA)	(NA)	(NA)	4.6	70.9	3.8	7.9	55.3	119.8	92.9	220.2	6.6	24.7	(NA)	(NA)
1978 ASM.....	(NA)	(NA)	(NA)	5.0	66.7	4.1	8.1	52.7	140.8	90.0	225.8	15.2	27.8	(NA)	(NA)
1977 Census.....	25	38	27	4.9	58										

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1982 and Earlier Years—Con.

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Year ¹	All establishments ³			All employees		Production workers			Value added by manufacture ⁴ (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories ⁴ (million dollars)	Ratios	
	Companies ² (no.)	Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Specialization (per-cent)	Coverage (per-cent)
	INDUSTRY 2646, PRESSED AND MOLDED PULP GOODS—Con.														
1972 Census	34	49	38	6.1	51.8	5.0	10.2	39.5	100.6	60.7	162.8	7.0	19.4	98	(NA)
1971 ASM	(NA)	(NA)	(NA)	6.6	55.1	5.3	11.3	41.3	114.6	65.3	177.0	7.4	24.8	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	6.3	49.5	5.1	10.6	36.6	104.1	57.7	160.1	8.7	20.0	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	6.7	49.4	5.4	11.3	35.9	107.3	54.9	161.4	12.0	19.2	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	6.7	46.6	5.3	11.1	34.1	108.0	53.8	161.9	11.2	17.3	(NA)	(NA)
1967 Census	43	58	45	6.7	44.8	5.4	11.4	33.0	97.8	48.7	145.9	17.6	16.2	⁷ 95	⁷ 95
	INDUSTRY 2647, SANITARY PAPER PRODUCTS														
1982 Census	84	138	103	36.7	863.3	28.8	59.0	641.3	4 341.0	4 736.6	9 086.0	271.1	640.0	94	98
1981 ASM	(NA)	(NA)	(NA)	36.6	804.6	28.9	58.4	599.5	3 654.0	4 670.4	8 345.8	248.2	614.5	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	37.7	740.0	29.5	59.5	549.4	3 552.4	4 176.2	7 636.2	250.9	668.1	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	37.7	660.1	30.2	61.2	492.7	3 047.9	3 608.0	6 615.2	265.4	569.8	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	35.0	562.3	27.7	55.2	414.2	2 658.2	2 983.6	5 590.7	210.6	477.0	(NA)	(NA)
1977 Census	72	120	89	34.5	509.1	27.4	54.5	381.8	2 194.5	2 781.5	4 921.2	199.1	409.9	93	99
1976 ASM	(NA)	(NA)	(NA)	32.9	439.7	26.5	52.9	327.0	1 809.9	2 601.7	4 409.7	108.4	333.2	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	31.4	381.0	25.7	51.3	284.0	1 606.1	2 297.7	3 883.9	121.2	331.7	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	31.3	345.0	25.7	51.8	260.1	1 435.6	1 876.3	3 265.4	65.2	302.3	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	28.2	290.5	23.4	46.3	222.2	987.3	1 348.0	2 325.3	109.0	185.7	(NA)	(NA)
1972 Census	74	108	85	26.3	256.1	21.8	43.6	197.2	882.8	1 197.8	2 071.8	119.6	155.0	95	97
1971 ASM	(NA)	(NA)	(NA)	24.0	217.4	19.6	40.0	163.9	780.3	947.4	1 715.7	52.9	123.2	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	24.6	204.5	20.0	40.7	153.3	763.5	896.1	1 654.3	50.5	104.0	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	25.3	199.3	20.8	43.7	155.6	722.1	908.2	1 621.8	59.4	103.0	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	23.0	170.0	18.9	38.6	130.7	615.3	809.0	1 420.4	58.2	84.4	(NA)	(NA)
1967 Census	91	125	86	22.0	154.2	18.3	37.6	119.2	540.2	757.8	1 293.4	58.5	78.9	94	96
	INDUSTRY 2648, STATIONERY PRODUCTS ⁸														
1982 Census	195	214	112	12.6	193.1	9.5	18.3	127.1	433.1	600.7	1 034.0	21.4	177.2	79	73
1981 ASM	(NA)	(NA)	(NA)	11.9	168.6	9.0	17.3	110.4	235.7	666.2	892.9	⁵ 13.1	144.7	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	13.0	172.6	9.9	19.1	112.1	219.6	625.5	835.6	12.7	140.4	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	13.4	161.4	10.2	19.4	106.2	192.8	587.5	765.8	14.6	137.4	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	13.9	156.8	10.7	19.6	105.4	344.6	402.4	747.0	⁵ 18.4	129.7	(NA)	(NA)
1977 Census	221	242	109	12.6	135.2	9.8	18.5	91.0	291.0	364.4	651.7	15.9	118.2	86	80
1976 ASM	(NA)	(NA)	(NA)	12.3	124.3	9.5	18.4	83.2	306.8	355.8	652.9	⁵ 12.7	113.2	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	12.1	114.6	9.3	18.0	72.9	256.4	314.8	591.3	⁵ 15.5	103.3	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	13.3	115.5	10.4	20.6	79.0	305.9	323.7	604.6	8.0	130.9	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	15.0	112.5	11.7	22.3	77.3	242.0	257.9	493.1	6.5	102.0	(NA)	(NA)
1972 Census	406	431	131	14.7	106.3	11.5	22.3	72.6	225.6	230.5	450.5	9.3	88.4	85	82
	INDUSTRY 2649, CONVERTED PAPER PRODUCTS, N.E.C. ⁸														
1982 Census	721	776	296	27.2	435.4	19.7	38.4	266.4	1 149.7	1 235.3	2 399.3	67.2	416.0	86	80
1981 ASM	(NA)	(NA)	(NA)	30.1	463.8	21.9	42.9	275.2	1 233.4	1 398.9	2 597.6	55.4	479.6	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	30.8	413.9	22.6	43.6	253.6	1 102.9	1 250.0	2 328.6	66.3	412.1	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	30.1	374.8	22.6	43.8	237.7	953.4	1 124.5	2 042.7	⁵ 86.3	379.6	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	30.1	369.8	21.9	42.6	224.7	886.9	1 030.5	1 900.6	77.6	335.4	(NA)	(NA)
1977 Census	774	833	291	29.4	325.1	21.9	43.3	201.1	834.3	887.3	1 697.5	51.1	277.7	88	81
1976 ASM	(NA)	(NA)	(NA)	22.8	254.8	16.7	34.1	156.2	628.4	669.3	1 288.3	⁵ 25.4	201.8	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	21.7	216.4	15.9	32.2	129.9	520.4	559.4	1 090.4	29.6	193.6	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	24.0	216.1	17.9	36.7	138.2	517.6	575.4	1 079.4	⁵ 37.7	217.5	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	22.0	179.3	17.0	33.5	117.8	436.3	410.4	833.0	⁵ 25.4	151.6	(NA)	(NA)
1972 Census	289	307	181	18.1	136.6	14.0	27.6	88.8	325.6	307.7	630.6	18.5	96.8	83	74

¹In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1967, see 1967 Census of Manufactures, vol. II, table 1 of the Industry chapter.

²For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

³Includes establishments with payroll at any time during year.

⁴Effective with the 1982 Economic Censuses, uniform instructions for reporting inventories were introduced for all sector reports. Up to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). In 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Because of this change in reporting instructions, the 1982 data for inventories and value added by manufacture included in the tables of this report are not comparable to the prior-year data shown above and in historical census of manufactures and annual survey of manufactures publications. Inventories and value added data estimated on a basis comparable to the historical data, using the reported information for 1982, are shown below:

Industries	End-of-1981 inventories (million dollars)	End-of-1982 inventories (million dollars)	1982 value added by manufacture (million dollars)
Industry 2641, Paper coating and glazing	701.2	671.2	2 332.9
Industry 2642, Envelopes.....	194.1	189.9	854.2
Industry 2643, Bags, except textile bags	648.6	634.9	2 056.2
Industry 2645, Die-cut paper and board	175.4	179.6	708.7
Industry 2646, Pressed and molded pulp goods.....	23.8	28.0	140.8
Industry 2647, Sanitary paper products	585.3	599.6	4 347.5
Industry 2648, Stationery products	169.1	169.3	434.2
Industry 2649, Converted paper products, n.e.c.	397.0	381.1	1 150.2

See Inventories in appendixes for explanation of the difference between end-of-1981 inventory figure shown in table and corresponding figure shown in footnote.

⁵Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

⁶Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus, those estimates may be of limited reliability.

⁷Minimum percentage; exact percentage withheld to avoid disclosing data for individual companies.

⁸Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

Table 1b. Selected Operating Ratios for the Industry: 1982 and Earlier Years

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Year	Payroll per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 2641, PAPER COATING AND GLAZING									
1982 Census.....	20 473	68	2 003	8.96	57	73	54 072	38	39.43
1981 ASM.....	19 095	68	2 035	8.17	60	75	49 848	38	36.27
1980 ASM.....	16 443	65	2 040	7.20	60	76	41 548	40	31.30
1979 ASM.....	13 673	72	1 759	6.52	58	75	34 673	39	27.19
1978 ASM.....	14 908	69	2 039	6.54	57	73	39 554	38	28.21
1977 Census.....	13 884	69	2 088	5.90	56	73	37 960	37	26.53
1976 ASM.....	13 046	68	2 093	5.70	57	74	34 781	38	24.37
1975 ASM.....	11 951	68	1 980	5.41	53	69	32 770	36	24.43
1974 ASM.....	11 189	70	2 077	4.85	55	72	33 032	34	22.77
1973 ASM.....	10 389	69	2 165	4.47	49	66	30 295	34	20.15
1972 Census.....	9 855	71	2 102	4.16	50	69	26 462	37	17.67
1971 ASM.....	8 919	71	2 059	3.78	51	70	23 758	38	16.35
1970 ASM.....	8 540	71	2 055	3.58	50	69	22 987	37	15.69
1969 ASM.....	8 085	71	2 134	3.35	53	71	21 303	38	14.02
1968 ASM.....	7 677	71	2 200	3.07	56	74	19 558	39	12.48
1967 Census.....	7 030	73	2 089	2.94	54	70	19 623	36	12.91
INDUSTRY 2642, ENVELOPES									
1982 Census.....	17 570	78	1 947	7.77	52	76	34 984	50	23.07
1981 ASM.....	15 383	79	1 961	6.75	52	77	30 105	51	19.32
1980 ASM.....	14 141	80	1 941	6.23	50	75	28 949	49	18.71
1979 ASM.....	13 245	80	1 960	5.82	50	75	26 735	50	17.16
1978 ASM.....	12 908	78	1 983	5.64	51	77	24 279	53	15.66
1977 Census.....	11 947	78	1 966	5.27	50	77	22 274	54	14.55
1976 ASM.....	11 382	77	1 964	4.95	50	78	20 304	56	13.35
1975 ASM.....	10 671	77	1 953	4.61	48	76	19 493	55	12.94
1974 ASM.....	9 683	79	1 979	4.18	47	74	19 432	50	12.36
1973 ASM.....	9 030	81	2 027	3.82	45	76	16 412	55	10.04
1972 Census.....	8 498	80	2 027	3.61	44	76	15 157	56	9.31
1971 ASM.....	8 112	79	2 000	3.47	45	77	14 027	58	8.83
1970 ASM.....	7 620	80	2 053	3.18	45	76	13 607	56	8.25
1969 ASM.....	7 004	80	2 042	2.94	45	74	13 064	54	7.95
1968 ASM.....	6 603	80	2 038	2.79	46	76	11 834	56	7.27
1967 Census.....	6 307	80	2 077	2.61	47	77	11 249	56	6.73
INDUSTRY 2643, BAGS, EXCEPT TEXTILE BAGS									
1982 Census.....	16 950	79	1 972	7.59	59	76	40 946	41	26.12
1981 ASM.....	16 161	79	2 025	6.92	63	79	38 823	42	24.21
1980 ASM.....	14 736	80	1 991	6.43	62	78	36 566	40	23.07
1979 ASM.....	13 856	80	1 981	6.11	62	78	33 634	41	21.25
1978 ASM.....	12 911	80	2 033	5.54	61	77	31 539	41	19.44
1977 Census.....	11 994	80	2 000	5.31	61	78	27 713	43	17.39
1976 ASM.....	10 842	81	1 944	4.88	60	76	26 899	40	17.15
1975 ASM.....	9 887	81	1 858	4.58	59	75	24 916	40	16.61
1974 ASM.....	9 078	82	2 000	3.98	55	72	25 700	35	15.67
1973 ASM.....	8 317	80	2 015	3.77	56	74	19 444	43	12.09
1972 Census.....	7 932	80	2 028	3.54	56	76	17 294	46	10.65
1971 ASM.....	7 416	81	2 007	3.30	58	79	14 714	50	9.06
1970 ASM.....	6 831	81	2 019	3.00	59	80	13 415	51	8.20
1969 ASM.....	6 512	79	2 064	2.76	57	78	13 593	48	8.31
1968 ASM.....	6 411	80	2 092	2.71	56	77	13 705	47	8.17
1967 Census.....	6 011	80	2 038	2.61	60	80	12 175	49	7.46
INDUSTRY 2645, DIE-CUT PAPER AND BOARD									
1982 Census.....	15 465	79	1 881	7.11	58	73	44 572	35	29.90
1981 ASM.....	15 006	77	1 886	6.70	60	75	39 738	38	27.43
1980 ASM.....	13 813	77	1 890	6.14	59	75	36 759	38	25.42
1979 ASM.....	12 776	77	1 924	5.71	57	72	38 218	33	25.78
1978 ASM.....	12 901	78	1 958	5.61	60	77	31 642	41	20.68
1977 Census.....	12 210	79	2 009	5.27	61	77	30 035	41	18.92
1976 ASM.....	11 072	77	1 966	4.86	61	77	26 314	42	17.35
1975 ASM.....	10 527	78	1 948	4.71	60	77	25 203	42	16.65
1974 ASM.....	9 655	78	1 977	4.28	58	75	23 897	40	15.46
1973 ASM.....	9 119	77	2 025	4.01	56	76	20 843	44	13.42
1972 Census.....	8 717	78	2 008	3.82	56	75	19 842	44	12.73
1971 ASM.....	7 861	77	2 030	3.42	53	74	17 538	45	11.24
1970 ASM.....	7 511	77	2 021	3.20	56	78	14 918	50	9.53
1969 ASM.....	7 127	77	2 048	3.00	57	79	14 296	50	9.04
1968 ASM.....	6 890	76	2 055	2.89	52	76	13 639	51	8.68
1967 Census.....	6 306	79	2 000	2.72	57	77	13 296	47	8.41
INDUSTRY 2646, PRESSED AND MOLDED PULP GOODS									
1982 Census.....	18 969	81	2 038	9.04	42	68	44 000	43	26.57
1981 ASM.....	18 906	84	2 185	8.24	46	71	40 000	47	21.69
1980 ASM.....	16 909	82	2 111	7.75	49	82	25 205	67	14.59
1979 ASM.....	15 413	83	2 079	7.00	42	74	26 043	59	15.16
1978 ASM.....	13 340	82	1 976	6.51	40	69	28 160	47	17.38
1977 Census.....	12 000	82	2 100	5.80	37	62	31 367	38	18.30
1976 ASM.....	11 094	81	1 977	5.29	39	66	24 547	45	15.31
1975 ASM.....	10 019	81	2 047	4.69	38	64	24 604	41	14.82
1974 ASM.....	9 571	82	2 087	4.33	41	67	21 607	44	12.60
1973 ASM.....	8 893	82	2 065	4.04	34	64	19 321	46	11.39

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1982 and Earlier Years—Con.

(For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes)

Year	Payroll per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 2646, PRESSED AND MOLDED PULP GOODS—Con.									
1972 Census	8 492	82	2 040	3.87	37	69	16 492	51	9.86
1971 ASM	8 348	80	2 132	3.65	37	68	17 364	48	10.14
1970 ASM	7 857	81	2 078	3.45	36	67	16 524	48	9.82
1969 ASM	7 373	81	2 093	3.18	34	65	16 015	46	9.50
1968 ASM	6 955	79	2 094	3.07	33	62	16 119	43	9.73
1967 Census	6 687	81	2 111	2.89	33	64	14 597	46	8.58
INDUSTRY 2647, SANITARY PAPER PRODUCTS									
1982 Census	23 523	78	2 049	10.87	52	62	118 283	20	73.58
1981 ASM	21 984	79	2 021	10.27	56	66	99 836	22	62.57
1980 ASM	19 629	78	2 017	9.23	55	64	94 228	21	59.70
1979 ASM	17 509	80	2 026	8.05	55	65	80 846	22	49.80
1978 ASM	16 066	79	1 993	7.50	53	63	75 949	21	48.16
1977 Census	14 757	79	1 989	7.01	57	67	63 609	23	40.27
1976 ASM	13 365	81	1 996	6.18	59	69	54 985	24	34.20
1975 ASM	12 134	82	1 996	5.54	59	69	51 150	24	31.31
1974 ASM	11 022	82	2 016	5.02	57	68	45 866	24	27.71
1973 ASM	10 301	83	1 979	4.80	58	70	35 011	29	21.32
1972 Census	9 738	83	2 000	4.52	58	70	33 567	29	20.25
1971 ASM	9 058	82	2 041	4.10	55	68	32 512	28	19.51
1970 ASM	8 313	81	2 035	3.77	54	67	31 037	27	18.76
1969 ASM	7 877	82	2 101	3.56	56	68	28 542	28	16.52
1968 ASM	7 391	82	2 042	3.39	57	69	26 752	28	15.94
1967 Census	7 009	83	2 055	3.17	59	71	24 555	29	14.37
INDUSTRY 2648, STATIONERY PRODUCTS									
1982 Census	15 325	75	1 926	6.95	58	77	34 373	45	23.67
1981 ASM	14 168	76	1 922	6.38	75	93	19 807	72	13.58
1980 ASM	13 277	76	1 929	5.87	75	96	16 892	79	11.50
1979 ASM	12 045	76	1 902	5.47	77	98	14 388	84	9.94
1978 ASM	11 281	77	1 832	5.38	54	75	24 791	46	17.58
1977 Census	10 730	78	1 888	4.92	56	77	23 095	46	15.73
1976 ASM	10 106	77	1 937	4.52	54	74	24 943	41	16.67
1975 ASM	9 471	77	1 935	4.05	53	73	21 190	45	14.24
1974 ASM	8 684	78	1 981	3.83	54	73	23 000	38	14.85
1973 ASM	7 500	78	1 906	3.47	52	75	16 133	46	10.85
1972 Census	7 231	78	1 939	3.26	51	75	15 347	47	10.12
INDUSTRY 2649, CONVERTED PAPER PRODUCTS, N.E.C.									
1982 Census	16 007	72	1 949	6.94	51	70	42 268	38	29.94
1981 ASM	15 409	73	1 959	6.41	54	72	40 977	38	28.75
1980 ASM	13 438	73	1 929	5.82	54	71	35 808	38	25.30
1979 ASM	12 452	75	1 938	5.43	55	73	31 674	39	21.77
1978 ASM	12 286	73	1 945	5.27	54	74	29 465	42	20.82
1977 Census	11 058	74	1 977	4.64	52	71	28 378	39	19.27
1976 ASM	11 175	73	2 042	4.58	52	72	27 561	41	18.43
1975 ASM	9 972	73	2 025	4.03	51	71	23 982	42	16.16
1974 ASM	9 004	75	2 050	3.77	53	73	21 567	42	14.10
1973 ASM	8 150	77	1 971	3.52	49	71	19 832	41	13.02
1972 Census	7 547	77	1 971	3.22	49	70	17 989	42	11.80

Note: For qualifications of data, see footnotes on table 1a.

Table 2. Industry Statistics for Selected States: 1982 and 1977

(Excludes data for auxiliaries. Includes data for States with 150 employees or more. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes)

Industry and geographic area	1982											1977		
	E¹	All establishments²		All employees		Production workers			Value added by manufacture⁴ (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees³ (1,000)	Value added by manufacture (million dollars)
		Total (no.)	With 20 employees or more (no.)	Number³ (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 2641, PAPER COATING AND GLAZING														
United States -----	-	574	298	43.1	882.4	29.5	59.1	529.3	2 330.5	3 117.2	5 454.0	200.8	39.7	1 507.0
California -----	E2	67	25	2.1	42.1	1.4	2.7	26.1	88.0	113.7	203.3	7.1	1.9	63.2
Florida -----	E2	13	6	.4	6.9	.3	.6	4.6	15.0	26.2	41.1	2.2	.2	5.2
Georgia -----	-	20	8	1.1	20.3	.8	1.7	13.6	63.1	96.0	156.2	4.2	1.0	30.2
Illinois -----	E1	63	34	4.2	86.1	2.8	5.5	50.6	226.3	275.0	503.0	14.8	3.4	128.5
Indiana -----	-	10	8	1.0	19.5	.8	1.6	14.4	41.3	69.5	110.6	1.2	.8	25.0
Iowa -----	-	7	6	.9	20.1	.6	1.2	12.5	70.7	94.4	162.4	10.2	.7	33.4
Kansas -----	E2	5	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Kentucky -----	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Louisiana -----	E1	4	3	.2	4.9	.2	.3	3.6	11.1	28.0	39.5	.4	AA	(D)
Massachusetts -----	-	38	21	5.2	103.6	3.2	6.9	52.0	246.5	258.4	504.4	25.2	3.5	101.3

See footnotes at end of table.

Table 2. Industry Statistics for Selected States: 1982 and 1977—Con.

[Excludes data for auxiliaries. Includes data for States with 150 employees or more. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and geographic area	1982												1977	
	E ¹	All establishments ²		All employees		Production workers			Value added by manufacture ⁴ (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees ³ (1,000)	Value added by manufacture (million dollars)
		Total (no.)	With 20 employees or more (no.)	Number ³ (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 2641, PAPER COATING AND GLAZING—Con.														
Michigan	-	17	12	1.8	36.9	1.3	2.6	25.0	75.6	147.0	223.7	4.7	1.7	59.5
Minnesota	-	14	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Mississippi	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Missouri	-	14	7	.8	15.1	.6	1.1	9.4	34.8	58.0	92.6	4.3	.6	21.8
New Hampshire	-	5	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
New Jersey	E2	42	24	2.3	46.4	1.5	3.0	26.1	90.8	136.2	230.8	4.6	2.6	76.1
New York	E1	44	16	1.6	29.9	1.2	2.3	19.8	70.7	99.8	170.4	4.7	EE	(D)
North Carolina	-	10	6	.9	10.8	.7	1.4	8.9	30.7	50.1	80.5	2.5	.9	23.3
Ohio	-	37	19	3.0	69.1	1.8	3.6	35.0	147.6	214.4	361.7	10.1	5.4	171.7
Oregon	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Pennsylvania	-	31	24	2.9	59.5	1.9	4.0	35.9	201.8	259.0	462.1	9.3	2.4	110.0
Rhode Island	E4	9	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.4	7.5
South Carolina	-	6	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Tennessee	-	13	9	.8	15.2	.6	1.2	8.8	44.0	49.6	95.0	4.4	.8	21.0
Texas	E1	25	11	.8	13.6	.6	1.3	9.8	36.8	60.1	98.3	(D)	.7	17.7
Virginia	-	5	3	.3	3.6	.2	.4	3.1	8.2	29.2	36.5	(D)	(NA)	(NA)
Wisconsin	E1	30	21	4.2	99.4	3.0	6.0	62.9	258.4	428.2	686.0	22.3	3.7	157.6
INDUSTRY 2642, ENVELOPES														
United States	-	296	217	24.4	428.7	19.0	37.0	287.5	853.6	919.9	1 771.3	45.1	22.6	503.4
Arizona	-	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	E1	37	29	2.4	47.6	1.9	3.6	33.0	99.8	103.5	203.5	4.5	2.0	50.2
Colorado	-	5	4	.4	7.9	.3	.6	5.1	14.6	13.2	27.9	.6	BB	(D)
Connecticut	-	3	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Florida	-	9	7	.6	8.7	.4	.9	5.6	17.7	20.9	38.0	1.2	.4	9.5
Georgia	-	6	5	.6	10.8	.5	1.0	7.5	22.5	27.7	50.7	(D)	.6	14.5
Illinois	-	22	17	2.2	37.9	1.7	3.4	26.2	67.3	74.5	142.7	4.6	2.5	49.9
Indiana	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Iowa	E1	3	2	.2	3.4	.1	.3	2.1	9.1	7.5	16.5	(D)	AA	(D)
Kansas	-	5	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.2	4.8
Kentucky	-	6	3	.3	4.6	.2	.4	2.9	11.7	10.5	22.2	.2	.2	4.1
Maryland	E1	5	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Massachusetts	-	16	12	1.9	32.8	1.5	2.9	23.0	61.8	80.7	141.9	6.0	1.5	31.9
Michigan	E3	12	8	.5	7.9	.3	.7	5.0	15.1	15.0	30.1	.9	BB	(D)
Minnesota	E3	10	6	1.0	17.2	.8	1.5	11.1	28.5	31.4	59.0	(D)	CC	(D)
Missouri	-	12	10	1.3	24.7	1.1	2.0	16.3	43.6	47.5	90.7	.9	1.1	25.2
Nebraska	E2	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
New Jersey	E2	10	7	1.2	22.0	1.0	1.8	14.7	37.9	41.3	79.4	1.4	CC	(D)
New York	E1	43	28	3.2	50.3	2.6	5.3	35.7	105.0	115.1	218.3	7.8	3.3	75.0
North Carolina	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Ohio	-	18	12	1.5	25.2	1.1	2.2	16.6	46.9	47.4	95.2	1.4	1.5	31.8
Oregon	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pennsylvania	-	13	8	1.3	23.5	1.0	2.1	16.0	52.1	62.1	113.5	2.1	EE	(D)
Tennessee	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.5	10.2
Texas	-	14	12	1.1	21.1	.9	1.8	14.4	47.8	41.1	89.0	1.5	1.1	24.4
Virginia	-	5	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Washington	-	4	2	.2	5.0	.2	.3	3.2	9.1	7.4	16.6	(D)	AA	(D)
Wisconsin	-	5	5	.6	11.7	.4	.8	7.0	20.6	22.1	42.6	.9	BB	(D)
INDUSTRY 2643, BAGS, EXCEPT TEXTILE BAGS														
United States	-	577	381	50.2	850.9	39.9	78.7	597.7	2 055.5	2 972.5	5 037.6	140.8	48.7	1 349.6
Alabama	-	6	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.8	33.6
Arkansas	-	17	14	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.8	45.1
California	E1	53	34	3.4	58.0	2.7	5.2	39.9	125.2	220.1	347.3	17.1	3.5	107.5
Connecticut	E1	4	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.2	4.7
Florida	-	23	15	2.0	32.6	1.7	3.3	24.4	85.4	139.2	225.1	(D)	1.6	51.1
Georgia	-	18	17	3.5	59.1	2.6	4.8	41.0	160.7	233.7	394.6	10.9	3.6	91.2
Illinois	-	42	27	3.8	68.8	3.1	6.4	42.1	166.8	227.3	392.9	16.4	3.7	113.7
Indiana	E1	14	11	1.5	26.3	1.2	2.5	18.6	61.0	87.1	149.0	2.9	1.7	44.0
Iowa	-	7	6	1.0	16.0	.8	1.6	11.1	50.6	52.2	104.5	2.6	1.1	40.7
Kansas	E3	6	5	.3	4.4	.3	.5	3.1	13.7	24.4	38.0	(D)	.3	8.6
Kentucky	-	4	4	1.2	21.1	1.0	1.9	14.4	48.2	73.0	122.4	(D)	.8	25.4
Louisiana	-	6	5	1.4	28.1	1.1	2.3	20.5	54.9	110.5	165.6	3.7	1.8	58.3
Massachusetts	-	18	14	1.2	20.3	.9	1.9	13.2	47.4	66.3	113.2	(D)	1.0	28.9
Michigan	E1	14	6	.6	12.4	.5	.9	8.5	92.9	49.3	143.3	(D)	.7	21.2
Minnesota	-	7	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Mississippi	E1	3	3	.2	3.1	.2	.3	1.8	6.9	10.0	17.0	(D)	AA	(D)
Missouri	-	10	9	1.2	21.7	1.0	1.9	14.4	45.0	78.8	124.1	4.5	1.1	25.8
Nebraska	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
New Hampshire	E1	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Jersey	E1	39	28	2.7	47.8	2.2	4.5	33.0	127.1	201.1	330.7	6.9	2.0	76.8
New York	E2	89	44	5.0	76.8	3.9	7.8	52.1	196.6	225.9	423.2	13.0	4.9	118.7
North Carolina	E1	14	11	1.3	20.2	1.1	2.1	13.0	39.0	49.3	87.6	1.6	.9	20.5
Ohio	E2	26	18	2.1	37.0	1.6	3.0	24.9	60.2	89.3	150.0	4.7	2.0	45.9
Oregon	-	6	4	.3	8.1	.2	.5	5.7	21.4	40.8	62.3	1.5	AA	(D)
Pennsylvania	E1	25	11	2.3	41.1	1.9	3.7	30.0	91.9	138.0	229.0	3.3	2.5	68.6
South Carolina	E2	8	5	1.8	33.1	1.6	3.2	28.3	55.1	81.1	139.4	(D)	1.8	43.9
Tennessee	-	14	7	1.4	20.6	1.2	2.3	15.7	47.2	76.7	123.8	(D)	1.4	32.1
Texas	-	30	23	3.3	57.3	2.5	4.7	38.9	151.9	192.8	341.8	10.3	2.7	93.4
Utah	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Virginia	-	10	10	1.4	20.6	1.2	2.3	16.6	40.3	100.6	141.0	6.1	1.3	27.2

See footnotes at end of table.

Table 2. Industry Statistics for Selected States: 1982 and 1977—Con.

[Excludes data for auxiliaries. Includes data for States with 150 employees or more. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and geographic area	1982											1977	
	All establishments ²		All employees		Production workers			Value added by manufacture ⁴ (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees ³ (1,000)	Value added by manufacture (million dollars)
	E ¹	Total (no.)	With 20 employees or more (no.)	Number ³ (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2643, BAGS, EXCEPT TEXTILE BAGS—Con.													
Washington	-	9	9	.9	18.0	.7	1.3	13.7	42.4	57.1	99.6	1.7	1.0
West Virginia	-	5	3	.2	4.0	.2	.3	2.8	9.6	15.0	24.7	(D)	.3
Wisconsin	-	13	9	1.4	24.2	.9	1.8	16.1	48.6	64.4	113.2	1.9	1.0
INDUSTRY 2645, DIE-CUT PAPER AND BOARD													
United States	E1	398	171	15.9	245.9	12.6	23.7	168.6	708.7	975.4	1 680.1	32.7	14.3
Arkansas	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
California	E2	45	20	1.5	24.7	1.2	2.4	17.2	60.3	77.1	136.5	2.3	1.2
District of Columbia	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia	E6	12	5	.5	6.2	.4	.9	5.1	23.6	21.8	45.2	.6	.2
Illinois	E1	40	17	1.4	21.2	1.0	1.9	12.7	55.2	64.7	122.0	6.8	1.6
Indiana	E1	9	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Massachusetts	E1	18	6	.6	9.2	.4	.9	6.3	17.1	15.8	32.5	1.5	BB
Michigan	-	18	11	.7	11.0	.5	1.1	7.4	27.8	46.9	74.8	1.6	.8
Minnesota	-	5	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Missouri	E8	10	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
New Jersey	E5	29	11	.9	17.7	.7	1.3	10.2	47.9	65.8	113.7	2.6	1.5
New York	E3	66	29	2.7	40.7	2.1	3.7	26.5	88.5	80.8	169.1	4.3	2.1
North Carolina	-	10	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Ohio	E1	30	10	1.2	18.9	1.0	2.0	14.5	39.5	55.7	95.4	(D)	1.3
Pennsylvania	-	25	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.8
Texas	-	14	9	.7	9.8	.6	1.3	7.4	28.3	26.4	53.2	2.6	.3
Washington	E2	9	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.2
Wisconsin	-	10	6	.5	6.4	.4	.7	5.1	24.0	32.4	55.6	.3	(NA)
INDUSTRY 2646, PRESSED AND MOLDED PULP GOODS													
United States	-	32	21	3.2	60.7	2.6	5.3	47.9	140.8	99.3	236.2	7.1	4.9
California	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Georgia	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Indiana	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Maine	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Massachusetts	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Mississippi	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
New York	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
INDUSTRY 2647, SANITARY PAPER PRODUCTS													
United States	-	138	103	36.7	863.3	28.8	59.0	641.3	4 341.0	4 736.6	9 086.0	271.1	34.5
Alabama	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Arkansas	-	4	4	.9	20.2	.8	1.8	16.6	91.2	114.5	205.6	7.9	CC
California	-	15	13	3.0	75.8	2.5	4.9	59.6	359.7	427.9	795.6	35.1	2.6
Connecticut	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Delaware	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Florida	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Georgia	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Idaho	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Illinois	-	7	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Indiana	-	5	3	.4	7.5	.3	.6	5.5	37.5	30.8	65.9	1.1	AA
Maine	-	3	3	1.3	25.7	1.1	2.4	21.2	82.1	70.6	154.5	(D)	1.2
Massachusetts	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.6
Michigan	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.7
Missouri	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
New Hampshire	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
New Jersey	-	7	6	3.0	68.0	1.6	2.9	28.0	216.0	150.7	359.2	24.1	2.6
New York	-	17	8	1.3	27.5	1.1	2.3	21.2	107.2	146.4	256.9	7.2	1.2
North Carolina	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC
Oklahoma	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC
Oregon	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)
Pennsylvania	-	13	9	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF
South Carolina	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC
Tennessee	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC
Vermont	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC
Washington	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE
Wisconsin	-	18	17	7.1	171.4	5.5	11.6	128.7	879.3	980.6	1 861.1	42.7	6.3

See footnotes at end of table.

Table 2. Industry Statistics for Selected States: 1982 and 1977—Con.

[Excludes data for auxiliaries. Includes data for States with 150 employees or more. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and geographic area		1982											1977	
		All establishments ²		All employees		Production workers			Value added by manufacture ⁴ (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees ³ (1,000)	Value added by manufacture (million dollars)
		Total (no.)	With 20 employees or more (no.)	Number ³ (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
E ¹														
INDUSTRY 2648, STATIONERY PRODUCTS														
United States -----	-	214	112	12.6	193.1	9.5	18.3	127.1	433.1	600.7	1 034.0	21.4	12.6	291.0
Alabama -----	-	5	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
California -----	E3	27	11	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Florida -----	E2	6	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia -----	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Idaho -----	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois -----	E1	10	6	1.3	20.0	.8	1.5	11.4	43.3	41.6	85.2	(D)	.8	17.8
Indiana -----	-	5	4	.5	8.1	.3	.6	5.1	18.3	28.8	48.0	.3	BB	(D)
Maryland -----	E2	4	4	.3	4.5	.2	.4	3.0	12.1	17.3	29.6	.7	.3	8.0
Massachusetts -----	E1	18	10	1.3	21.0	1.0	1.9	10.8	41.4	48.4	89.7	1.8	1.9	40.4
Michigan -----	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Missouri -----	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.4	27.5
New Jersey -----	-	10	5	.3	5.6	.3	.5	3.5	16.0	16.3	32.4	.3	.6	16.2
New York -----	E6	35	12	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.8	17.1
North Carolina -----	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Ohio -----	-	4	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Oregon -----	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pennsylvania -----	-	11	5	.8	14.5	.6	1.2	9.3	33.0	51.0	84.3	2.5	1.1	26.9
Tennessee -----	E2	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Texas -----	E1	10	6	.7	10.5	.5	1.0	7.2	27.9	41.1	69.2	1.3	.5	16.7
Wisconsin -----	E4	9	4	.3	3.6	.2	.3	2.2	8.5	15.6	24.3	.2	.4	9.9
INDUSTRY 2649, CONVERTED PAPER PRODUCTS, N.E.C.														
United States -----	E1	776	296	27.2	435.4	19.7	38.4	266.4	1 149.7	1 235.3	2 399.3	67.2	29.4	834.3
California -----	E2	65	27	1.9	28.8	1.3	2.4	16.1	67.8	86.1	155.0	3.7	1.6	48.7
Connecticut -----	-	14	4	.2	3.0	.1	.3	1.8	8.5	7.4	15.7	(D)	.4	10.6
Florida -----	E3	26	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Georgia -----	E6	21	8	.6	10.3	.5	.9	6.9	28.9	28.3	57.2	1.3	(NA)	(NA)
Illinois -----	E1	45	19	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	34.3
Indiana -----	E1	29	12	1.1	18.6	.8	1.5	11.9	58.0	50.6	107.1	3.2	1.0	27.6
Iowa -----	E7	9	1	.2	2.0	.1	.2	1.0	5.6	6.4	11.9	(D)	(NA)	(NA)
Kansas -----	-	13	6	1.2	21.2	1.0	1.7	13.2	88.2	52.4	141.9	(D)	.9	44.3
Maine -----	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts -----	E1	37	25	1.5	25.4	1.0	2.0	14.3	59.7	74.0	137.8	6.1	4.7	117.8
Michigan -----	E6	19	4	.3	4.4	.2	.4	2.5	10.6	17.0	27.6	.3	.7	20.9
Minnesota -----	E7	12	1	.2	3.1	.1	.3	1.9	4.9	7.1	12.0	(D)	BB	(D)
Mississippi -----	-	5	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri -----	-	14	5	.3	5.5	.3	.5	3.7	26.9	16.4	42.6	.3	AA	(D)
New Hampshire -----	-	6	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Jersey -----	E2	55	30	2.5	40.2	1.7	3.5	24.4	77.2	107.2	184.8	3.6	2.2	58.9
New York -----	E3	90	30	2.8	46.5	2.2	4.3	31.8	81.1	125.5	210.8	4.2	4.3	100.3
North Carolina -----	E2	30	13	.7	9.5	.5	.9	6.1	26.9	29.0	56.5	1.2	.8	13.9
Ohio -----	E2	52	16	1.8	32.7	1.4	2.9	21.3	80.7	103.7	185.6	3.3	1.0	28.9
Oklahoma -----	E1	7	2	.2	1.9	.1	.2	1.2	2.7	4.5	6.8	(D)	(NA)	(NA)
Oregon -----	E6	7	3	.3	5.8	.2	.5	3.5	15.1	13.6	28.7	.5	.3	10.9
Pennsylvania -----	E1	45	27	2.6	41.1	1.9	3.5	23.3	101.2	106.3	211.0	5.5	3.3	90.6
Rhode Island -----	E1	6	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Tennessee -----	-	10	7	3.0	41.4	2.0	4.0	22.6	134.6	112.3	250.8	8.1	2.3	83.9
Texas -----	E1	28	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.5	15.6
Virginia -----	E2	14	8	.6	8.9	.5	1.0	6.4	22.4	24.8	46.4	.4	.2	8.0
Washington -----	E1	13	2	.2	2.6	.1	.2	1.0	6.4	11.7	18.0	.4	(NA)	(NA)
West Virginia -----	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Wisconsin -----	-	20	7	.7	10.9	.5	1.0	6.8	29.4	28.8	58.9	.7	.7	21.7

Note: For qualifications of data, see footnotes on table 1a.

¹Payroll and sales data for some small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 percent or more.

²Includes establishments with payroll at any time during year.

³Statistics for some producing States have been withheld to avoid disclosing data for individual companies. However, for States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

⁴Beginning in 1982, all respondents were requested to report their inventories at cost or market prior to adjustment to LIFO cost. This is a change from prior years in which respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, data for inventories and value added by manufacture are not comparable to prior-year data.

Table 3a. Summary Statistics for the Industry: 1982

(For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes)

Item	Paper coating and glazing (SIC 2641)	Envelopes (SIC 2642)	Bags, except textile bags (SIC 2643)	Die-cut paper and board (SIC 2645)	Pressed and molded pulp goods (SIC 2646)	Sanitary paper products (SIC 2647)	Stationery products (SIC 2648)	Converted paper products, n.e.c. (SIC 2649)
Companies ¹ number	498	196	448	358	23	84	195	721
All establishments ² do	574	296	577	398	32	138	214	776
With 1 to 19 employees do	276	80	197	227	11	35	102	480
With 20 to 99 employees do	198	122	236	131	12	29	75	240
With 100 employees or more do	100	94	144	40	9	74	37	56
All employees:								
Average for year 1,000	43.1	24.4	50.2	15.9	3.2	36.7	12.6	27.2
Annual payroll ³ mil. dol.	882.4	428.7	850.9	245.9	60.7	863.3	193.1	435.4
Production workers:								
Average for year 1,000	29.5	19.0	39.9	12.6	2.6	28.8	9.5	19.7
March do	29.0	19.3	40.3	12.8	2.6	28.9	9.8	19.5
May do	29.1	19.1	39.2	12.8	2.6	28.8	10.2	19.7
August do	30.6	19.0	39.5	12.5	2.6	28.8	9.5	20.6
November do	29.3	18.7	40.6	12.2	2.5	28.9	8.7	19.1
Hours millions	59.1	37.0	78.7	23.7	5.3	59.0	18.3	38.4
January to March do	14.8	9.4	19.8	5.9	1.4	14.7	4.4	9.2
April to June do	14.8	9.2	19.4	6.1	1.3	14.9	5.0	9.6
July to September do	14.5	9.1	19.5	5.9	1.3	14.6	4.7	9.9
October to December do	14.9	9.3	19.9	5.9	1.3	14.8	4.2	9.6
Wages mil. dol.	529.3	287.5	597.7	168.6	47.9	641.3	127.1	266.4
Value added by manufacture ⁴ do	2 330.5	853.6	2 055.5	708.7	140.8	4 341.0	433.1	1 149.7
Cost of materials, etc. ⁵ do	3 117.2	919.9	2 972.5	975.4	99.3	4 736.6	600.7	1 235.3
Materials, parts, containers, etc., consumed do	2 857.2	823.6	2 797.3	918.6	60.8	4 294.4	480.5	1 097.4
Resales do	130.3	45.5	74.0	33.0	-	342.2	107.0	72.2
Fuels consumed ⁶ do	58.5	4.9	18.3	7.3	18.9	37.8	2.7	21.1
Purchased electric energy ⁷ do	59.1	21.5	75.5	10.4	19.5	57.3	6.4	26.2
Contract work do	12.1	24.4	7.5	6.0	.1	4.9	4.1	18.3
Value of shipments, including resales do	5 454.0	1 771.3	5 037.6	1 680.1	236.2	9 086.0	1 034.0	2 399.3
Value of resales do	155.3	54.5	83.6	49.3	(Z)	359.2	142.8	110.7
Manufacturers' inventories (see tables 3b and 3c)								
Capital expenditures for plant and equipment ⁸ do	214.9	55.2	154.1	39.3	7.5	276.8	24.9	74.6
New capital expenditures do	200.8	45.1	140.8	32.7	7.1	271.1	21.4	67.2
New buildings and other structures do	29.4	4.9	18.0	8.2	.7	68.1	1.8	12.0
New machinery and equipment do	171.4	40.2	122.8	24.5	6.4	202.9	19.6	55.2
Used capital expenditures do	14.1	10.1	13.3	6.7	.5	5.8	3.5	7.5
Primary product specialization ratio ⁹ percent	79	98	89	91	100	94	79	86
Coverage ratio ¹⁰ do	84	94	92	91	97	98	73	80

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during year.

³Data on supplemental labor costs are not included in annual payroll, but are shown in table 3d.

⁴Value added by manufacture is computed using inventory data reported on a cost or market basis prior to any adjustment to LIFO cost. See table 3b, footnote 1 for further explanation.

⁵Data on purchased services for the repair of buildings and machinery and for communication services are not included in cost of materials, etc., but are shown in table 3d.

⁶Data on purchased fuels by type were not collected for 1982. See MC82-S-4, Fuels and Electric Energy Consumed, for 1981 data on purchased fuels by type.

⁷Data on quantity of electric energy used for heat and power are included in table 3d.

⁸Data on capital expenditures for new machinery and equipment by type, depreciable assets, retirements, rental payments, and depreciation are included in table 3d.

⁹Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

¹⁰Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

Table 3b. Value of Inventories for the Industry: End of 1981 and 1982

(Million dollars. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes)

Item	Paper coating and glazing (SIC 2641)		Envelopes (SIC 2642)		Bags, except textile bags (SIC 2643)		Die-cut paper and board (SIC 2645)	
	End of 1981	End of 1982	End of 1981	End of 1982	End of 1981	End of 1982	End of 1981	End of 1982
Total inventories¹	754.3	715.3	216.0	210.4	710.1	690.3	187.7	191.5
Detail by method of valuation:								
Subject to LIFO costing ²	221.4	203.0	60.2	57.8	238.8	235.0	51.4	56.3
LIFO reserve	54.3	47.1	21.9	21.0	94.7	84.5	17.6	16.8
LIFO value	167.1	156.0	38.3	36.8	144.1	150.5	33.8	39.5
Not subject to LIFO costing	442.7	415.8	129.2	126.5	333.0	314.2	98.6	97.2
Valuation method not reported ³	87.9	91.3	25.7	26.1	132.2	135.5	36.6	36.3
Amount subject to LIFO reported without associated reserve and value ⁴	2.4	5.2	1.0	(Z)	6.1	5.5	1.1	1.7
Detail by stage of fabrication:								
Finished goods	291.4	288.2	88.4	92.8	280.1	271.3	78.7	82.2
Work in process	144.9	141.8	22.0	19.6	52.1	51.2	21.2	21.7
Materials and supplies	318.0	285.2	105.7	98.0	377.9	367.7	87.8	87.7

See footnotes at end of table.

Table 3b. Value of Inventories for the Industry: End of 1981 and 1982—Con.

[Million dollars. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Pressed and molded pulp goods (SIC 2646)		Sanitary paper products (SIC 2647)		Stationery products (SIC 2648)		Converted paper products, n.e.c. (SIC 2649)	
	End of 1981	End of 1982	End of 1981	End of 1982	End of 1981	End of 1982	End of 1981	End of 1982
Total inventories¹	24.3	28.6	635.3	640.0	178.6	177.2	435.9	416.0
Detail by method of valuation:								
Subject to LIFO costing ²	(D)	(D)	150.6	170.7	27.8	24.3	130.9	122.2
LIFO reserve	(D)	(D)	52.4	51.2	9.9	9.1	42.5	38.1
LIFO value	(D)	(D)	98.2	119.5	17.9	15.2	88.3	84.1
Not subject to LIFO costing	20.4	24.2	466.5	453.3	108.1	110.9	200.1	192.6
Valuation method not reported ³	(D)	(D)	15.2	13.7	42.6	41.9	104.5	100.8
Amount subject to LIFO reported without associated reserve and value ⁴	-	-	3.0	2.3	.1	.1	.4	.4
Detail by stage of fabrication:								
Finished goods	11.7	15.5	358.6	351.6	95.0	95.3	203.7	202.0
Work in process .....	.4	.4	37.6	36.2	36.9	36.5	74.3	61.7
Materials and supplies	12.3	12.6	239.1	252.2	46.6	45.5	157.9	152.3

¹Effective with the 1982 Economic Censuses, uniform instructions for reporting inventories were introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (LIFO, FIFO, market, to name a few). In 1982, all respondents were requested to report inventories at cost or market. LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve. For further explanation, see inventories in appendixes.

²Only includes data reported by respondents who (a) indicated amount of inventories subject to LIFO cost, and (b) provided sufficient information to determine associated LIFO reserve and value figures.

³Includes data estimated for nonresponse and nonmail administrative records and data reported by respondents who provided total inventory figures without other information.

⁴Includes data reported by respondents who indicated their inventories were subject to LIFO cost, but did not provide associated LIFO reserve and value figures.

Table 3c. Inventories by Specific Method of Valuation for the Industry: End of 1982

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Paper coating and glazing (SIC 2641)		Envelopes (SIC 2642)		Bags, except textile bags (SIC 2643)		Die-cut paper and board (SIC 2645)	
	Percent of total	Absolute standard error (percent)	Percent of total	Absolute standard error (percent)	Percent of total	Absolute standard error (percent)	Percent of total	Absolute standard error (percent)
Total inventories	100.0	(X)	100.0	(X)	100.0	(X)	100.0	(X)
Last-In, First-Out (LIFO) methods	28.4	(X)	27.5	(X)	34.0	(X)	29.4	(X)
Non-LIFO methods	58.1	(X)	60.1	(X)	45.5	(X)	50.8	(X)
Cost basis:								
First-In, First-Out (FIFO)	27.5	1.6	36.3	2.0	18.7	3.2	11.8	5.6
Average cost	6.3	1.0	6.5	1.4	5.9	1.0	5.2	1.8
Specific or actual cost	2.9	.5	7.1	1.3	3.6	1.9	1.9	.8
Standard cost	20.3	1.8	3.5	.8	14.1	1.9	30.9	5.2
Other	1.1	.3	1.0	.5	2.8	1.5	(Z)	(Z)
Market basis:								
Market lower than cost	(Z)	(Z)	1.2	.5	(Z)	(Z)	1.0	.2
Market always used	(Z)	(Z)	4.6	.9	.6	.1	(Z)	(Z)
Valuation method not reported	12.8	(X)	12.4	(X)	19.6	(X)	19.0	(X)
Amount subject to LIFO reported without associated reserve and value .....	.7	(X)	(Z)	(X)	.8	(X)	.9	(X)

Item	Pressed and molded pulp goods (SIC 2646)		Sanitary paper products (SIC 2647)		Stationery products (SIC 2648)		Converted paper products, n.e.c. (SIC 2649)	
	Percent of total	Absolute standard error (percent)	Percent of total	Absolute standard error (percent)	Percent of total	Absolute standard error (percent)	Percent of total	Absolute standard error (percent)
Total inventories	100.0	(X)	100.0	(X)	100.0	(X)	100.0	(X)
Last-In, First-Out (LIFO) methods	(D)	(X)	26.7	(X)	13.7	(X)	29.4	(X)
Non-LIFO methods	84.5	(X)	70.8	(X)	62.6	(X)	46.3	(X)
Cost basis:								
First-In, First-Out (FIFO)	1.2	.5	10.9	1.2	41.5	3.1	14.5	2.9
Average cost	24.8	8.4	9.8	1.0	(Z)	(Z)	4.2	.6
Specific or actual cost	8.1	2.3	3.3	.4	5.2	3.1	6.5	2.0
Standard cost	50.4	5.8	46.6	1.3	12.7	2.3	17.9	2.9
Other	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	3.1	1.0
Market basis:								
Market lower than cost	(Z)	(Z)	.1	.1	.5	.3	.1	.1
Market always used	(Z)	(Z)	(Z)	(Z)	2.7	.3	(Z)	(Z)
Valuation method not reported	(D)	(X)	2.1	(X)	23.6	(X)	24.2	(X)
Amount subject to LIFO reported without associated reserve and value	(Z)	(X)	.4	(X)	(Z)	(X)	.1	(X)

Note: The percentages shown for the LIFO and non-LIFO totals and the categories "valuation method not reported" and "amount subject to LIFO reported..." are based on the census universe estimates included in table 3b. The percentages shown for the specific non-LIFO methods of valuation (e.g., FIFO, etc.) are based on a representative sample of establishments included in the annual survey of manufactures (ASM) panel for 1982 (see appendixes for description of ASM). The absolute standard error of each of the ASM estimates is shown above.

Table 3d. Supplemental Industry Statistics Based on Sample Estimates: 1982

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Paper coating and glazing (SIC 2641)		Envelopes (SIC 2642)		Bags, except textile bags (SIC 2643)		Die-cut paper and board (SIC 2645)	
	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)
Supplemental labor costs:								
Total	175.4	3	87.0	2	189.0	2	51.4	6
Legal costs	77.7	2	40.0	2	72.3	2	22.0	5
Voluntary costs	97.7	3	47.1	2	116.7	3	29.4	8
Purchased services:								
Cost of purchased services for the repair of—								
Buildings and other structures	4.6	8	2.2	21	5.0	14	2.2	35
Response coverage ratio (percent) ²	78.5	(X)	70.8	(X)	66.1	(X)	58.7	(X)
Machinery	33.1	6	12.2	9	21.4	14	5.2	29
Response coverage ratio (percent) ²	83.5	(X)	76.7	(X)	69.4	(X)	69.5	(X)
Cost of purchased communication services	14.6	7	5.7	7	10.3	10	2.6	22
Response coverage ratio (percent) ²	79.6	(X)	76.2	(X)	68.1	(X)	63.7	(X)
Electric energy used for heat and power:								
Purchased:								
Quantity (million kWh)	1 133.6	1	330.7	2	1 540.6	2	187.2	2
Cost	59.1	(X)	21.5	(X)	75.5	(X)	10.4	(X)
Generated less sold (million kWh)	(D)	51	(S)	(NA)	6.0	73	(Z)	1
Gross book value of depreciable assets:								
Total:								
Beginning of year	1 665.7	2	427.2	5	1 433.0	4	295.1	11
New capital expenditures	212.5	11	41.0	11	125.0	12	31.8	15
Used capital expenditures	31.2	67	7.1	14	13.7	27	3.7	17
Retirements	49.8	15	16.3	18	48.6	5	5.1	14
End of year	1 859.7	3	458.9	4	1 523.1	4	325.5	10
Buildings and other structures:								
Beginning of year	350.0	4	70.0	8	307.3	6	83.0	13
New capital expenditures	39.8	23	2.9	15	13.7	13	8.2	10
Used capital expenditures	12.3	55	.5	14	3.4	79	.1	1
Retirements	5.6	32	1.1	32	11.2	5	1.0	20
End of year	396.5	5	72.1	7	313.3	7	90.4	12
Machinery and equipment:								
Beginning of year	1 315.7	2	357.2	4	1 125.8	4	212.1	11
New capital expenditures	172.7	9	38.1	11	111.3	13	23.6	18
Automobiles, trucks, etc., for highway use	2.1	21	1.0	13	2.3	27	1.9	27
Computers and peripheral data processing equipment	3.4	32	2.5	51	1.3	30	3.0	4
All other	109.5	12	27.6	11	87.5	10	12.6	29
New machinery and equipment, n.s.k. ³	57.6	13	6.9	29	20.2	54	6.2	29
Used capital expenditures	18.9	77	6.6	15	10.3	25	3.6	18
Retirements	44.2	13	15.2	19	37.5	5	4.1	14
End of year	1 463.2	2	386.9	4	1 209.9	5	235.1	10
Rental payments:								
Total	24.9	7	23.7	11	29.2	15	8.3	20
Buildings and other structures	10.8	16	17.7	13	19.0	18	4.1	25
Machinery and equipment	14.1	5	6.0	7	10.2	28	4.2	42
Depreciation charges during 1982:								
Total	121.7	2	31.2	5	101.4	6	33.1	36
Buildings and other structures	14.0	6	3.3	12	12.6	10	6.2	31
Machinery and equipment	107.7	2	27.9	5	88.8	6	26.9	37
Item	Pressed and molded pulp goods (SIC 2646)		Sanitary paper products (SIC 2647)		Stationery products (SIC 2648)		Converted paper products, n.e.c. (SIC 2649)	
	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)
Supplemental labor costs:								
Total	14.5	2	211.4	1	40.7	4	91.9	4
Legal costs	5.8	2	70.5	1	17.8	3	37.4	4
Voluntary costs	8.7	3	140.9	2	22.9	5	54.5	5
Purchased services:								
Cost of purchased services for the repair of—								
Buildings and other structures .....	.3	25	6.1	7	1.4	14	1.2	13
Response coverage ratio (percent) ²	100.0	(X)	82.6	(X)	69.7	(X)	55.1	(X)
Machinery	2.8	69	24.8	12	4.7	17	11.7	14
Response coverage ratio (percent) ²	100.0	(X)	86.8	(X)	77.5	(X)	66.3	(X)
Cost of purchased communication services .....	.5	33	7.5	9	2.3	19	5.3	16
Response coverage ratio (percent) ²	98.2	(X)	83.7	(X)	76.5	(X)	66.9	(X)
Electric energy used for heat and power:								
Purchased:								
Quantity (million kWh)	(D)	2	1 329.5	3	(D)	2	450.8	3
Cost	(D)	(X)	57.3	(X)	(D)	(X)	26.2	(X)
Generated less sold (million kWh)	(D)	1	11.8	67	-	1	(D)	1
Gross book value of depreciable assets:								
Total:								
Beginning of year	232.4	8	2 123.9	4	208.5	4	635.0	4
New capital expenditures	7.8	35	259.9	6	14.4	16	48.5	10
Used capital expenditures .....	.5	1	4.6	4	2.3	8	5.9	45
Retirements	1.3	40	84.6	3	6.0	9	22.9	9
End of year	239.4	9	2 303.9	5	219.1	4	666.4	4

See footnotes at end of table.

Table 3d. Supplemental Industry Statistics Based on Sample Estimates: 1982—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Pressed and molded pulp goods (SIC 2646)		Sanitary paper products (SIC 2647)		Stationery products (SIC 2648)		Converted paper products, n.e.c. (SIC 2649)	
	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)
Gross book value of depreciable assets—Con.								
Buildings and other structures:								
Beginning of year	45.2	5	516.7	6	56.6	6	190.4	7
New capital expenditures .....	.8	42	64.2	1	.2	23	6.0	13
Used capital expenditures	(2)	1	(2)	1	.1	43	1.9	79
Retirements .....	.2	75	8.5	1	.6	44	2.3	30
End of year	45.8	5	572.3	6	56.4	7	196.0	6
Machinery and equipment:								
Beginning of year	187.3	9	1 607.3	5	151.9	3	444.6	4
New capital expenditures	7.0	34	195.7	8	14.2	16	42.5	11
Automobiles, trucks, etc., for highway use .....	.1	56	10.3	1	.6	44	1.1	34
Computers and peripheral data processing equipment	-	1	2.1	1	.3	54	1.7	26
All other	3.3	71	180.7	8	12.6	17	38.9	10
New machinery and equipment, n.s.k. ³	3.6	3	2.7	7	.7	24	1.0	(NA)
Used capital expenditures .....	.5	1	4.6	4	2.2	8	4.0	31
Retirements	1.1	34	76.0	3	5.4	8	20.7	8
End of year	193.7	10	1 731.6	5	162.8	4	470.4	4
Rental payments:								
Total .....	.4	57	18.5	5	10.5	34	23.5	15
Buildings and other structures .....	.3	51	8.3	4	7.5	49	16.1	19
Machinery and equipment	(2)	97	10.2	11	3.1	11	7.4	19
Depreciation charges during 1982:								
Total	11.7	11	137.6	5	14.0	11	42.4	5
Buildings and other structures	1.4	2	15.6	5	3.4	40	7.3	10
Machinery and equipment	10.3	12	122.0	6	10.6	6	35.0	5

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are also shown in table 3a. Data in table 3a are census universe totals and may differ from annual survey of manufactures (ASM) sample estimates shown in this table. Data in this table represent best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as universe figures shown in table 3a.

¹For description of relative standard error of estimate, see Qualifications of the Data in appendixes.

²Measure of extent to which respondents reported each item. Derived for each item by calculating the ratio of weighted employment for those sample establishments that reported the specific inquiry to weighted total employment for all sample establishments classified in industry. (See appendixes for explanation of sample weight.)

³Represents total machinery and equipment expenditures for establishments that did not break down their expenditures by specific type.

Table 4. Industry Statistics by Employment Size of Establishment: 1982

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and employment size class	E ¹	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2641, PAPER COATING AND GLAZING												
Total	-	574	43.1	882.4	29.5	59.1	529.3	2 330.5	3 117.2	5 454.0	200.8	715.3
Establishments with an average of—												
1 to 4 employees	E8	87	.2	2.6	.1	.2	1.9	6.6	9.6	16.2	.6	2.4
5 to 9 employees	E7	85	.6	9.6	.4	.8	6.1	23.2	33.2	56.3	1.6	7.3
10 to 19 employees	E4	104	1.5	26.4	1.1	2.1	15.8	57.7	75.6	133.1	6.3	15.3
20 to 49 employees	E2	124	3.9	73.3	2.8	5.6	43.6	177.2	250.6	427.2	18.4	57.9
50 to 99 employees	E1	74	5.2	97.6	3.9	7.7	63.7	229.3	372.0	600.5	21.9	79.1
100 to 249 employees	E1	61	9.1	180.0	6.3	12.9	115.8	454.5	692.0	1 157.7	27.3	147.8
250 to 499 employees	-	25	9.3	186.5	6.6	12.8	116.7	514.8	673.2	1 182.6	50.1	167.9
500 to 999 employees	-	11	13.4	306.4	8.3	16.9	165.8	867.2	1 011.1	1 880.4	74.7	237.6
1,000 to 2,499 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	113	.8	10.8	.6	1.1	7.1	27.6	40.6	68.2	2.2	9.8
INDUSTRY 2642, ENVELOPES												
Total	-	296	24.4	428.7	19.0	37.0	287.5	853.6	919.9	1 771.3	45.1	210.4
Establishments with an average of—												
1 to 4 employees	E9	15	(Z)	.5	(Z)	.2	.4	1.8	1.9	3.7	.1	.4
5 to 9 employees	E5	25	.2	2.1	.1	.2	1.4	5.3	7.3	12.5	.3	1.8
10 to 19 employees	E3	40	.6	8.9	.4	.9	6.2	20.4	28.2	48.8	1.0	4.9
20 to 49 employees	E1	66	2.2	36.3	1.7	3.2	24.4	83.4	79.6	162.9	4.6	17.8
50 to 99 employees	-	56	4.1	68.5	3.2	6.4	46.6	152.8	156.3	308.7	8.2	38.5
100 to 249 employees	-	75	11.4	202.5	8.9	17.1	135.8	393.8	423.8	819.1	22.0	98.6
250 to 499 employees	-	17	6.0	109.9	4.7	9.0	72.6	196.1	222.8	415.7	9.0	48.4
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	42	.5	5.6	.4	.7	3.9	11.3	12.8	24.1	1.0	3.2

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1982—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and employment size class	E ¹	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2643, BAGS, EXCEPT TEXTILE BAGS												
Total.....	-	577	50.2	850.9	39.9	78.7	597.7	2 055.5	2 972.5	5 037.6	140.8	690.3
Establishments with an average of—												
1 to 4 employees.....	E9	69	.1	1.9	.1	.2	1.5	4.8	8.5	13.2	.2	1.7
5 to 9 employees.....	E6	51	.4	5.1	.3	.6	3.6	13.2	23.1	36.3	.6	4.9
10 to 19 employees.....	E6	77	1.1	15.8	.9	1.9	10.4	36.5	61.8	98.3	2.3	12.4
20 to 49 employees.....	E2	136	4.4	68.1	3.5	7.0	42.8	167.6	272.4	439.8	7.8	49.4
50 to 99 employees.....	E2	100	7.4	116.9	6.0	12.1	81.3	295.5	479.1	775.3	21.4	92.3
100 to 249 employees.....	-	93	15.1	252.5	12.2	23.8	183.7	630.7	886.5	1 521.0	36.2	197.5
250 to 499 employees.....	-	41	14.1	250.9	11.2	22.0	179.8	561.1	836.5	1 401.3	37.7	197.1
500 to 999 employees.....	-	9	7.6	139.8	5.7	11.1	94.5	346.1	404.7	752.4	34.6	135.0
1,000 to 2,499 employees.....	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	133	1.2	14.4	1.0	2.1	10.1	33.2	55.3	88.5	1.8	12.3
INDUSTRY 2645, DIE-CUT PAPER AND BOARD												
Total.....	E1	398	15.9	245.9	12.6	23.7	168.6	708.7	975.4	1 680.1	32.7	191.5
Establishments with an average of—												
1 to 4 employees.....	E8	79	.1	1.8	.1	.2	1.5	4.5	7.8	12.4	.1	1.7
5 to 9 employees.....	E8	66	.5	6.2	.4	.7	4.1	12.4	16.6	28.9	1.3	3.9
10 to 19 employees.....	E4	82	1.1	17.7	.9	1.7	11.3	36.6	52.8	89.4	1.3	11.1
20 to 49 employees.....	E2	89	2.9	44.3	2.3	4.3	28.7	102.7	141.9	245.0	5.6	31.1
50 to 99 employees.....	E2	42	2.9	45.8	2.3	4.3	31.5	143.4	165.3	308.3	5.4	38.8
100 to 249 employees.....	E3	29	4.3	68.3	3.4	6.3	46.0	253.1	313.2	565.7	11.4	54.7
250 to 499 employees.....	-	10	4.0	61.8	3.1	6.1	45.5	155.9	277.8	430.4	7.6	50.1
500 to 999 employees.....	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	115	.6	6.8	.5	1.0	4.6	16.3	26.2	42.5	.3	6.2
INDUSTRY 2646, PRESSED AND MOLDED PULP GOODS												
Total.....	-	32	3.2	60.7	2.6	5.3	47.9	140.8	99.3	236.2	7.1	28.6
Establishments with an average of—												
1 to 4 employees.....	E9	5	(Z)	.2	(Z)	(Z)	.2	.4	.3	.7	(Z)	.1
5 to 9 employees.....	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees.....	E5	4	.1	.6	(Z)	.1	.5	1.3	.9	2.2	(Z)	.2
20 to 49 employees.....	E3	8	.5	8.6	.4	.9	5.7	24.9	19.2	44.2	.7	5.7
50 to 99 employees.....	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees.....	-	5	2.6	51.3	2.0	4.3	41.5	114.2	78.9	189.1	6.4	22.7
250 to 499 employees.....	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees.....	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	11	.1	.9	.1	.2	.7	1.5	1.4	2.9	.1	.3
INDUSTRY 2647, SANITARY PAPER PRODUCTS												
Total.....	-	138	36.7	863.3	28.8	59.0	641.3	4 341.0	4 736.6	9 086.0	271.1	640.0
Establishments with an average of—												
1 to 4 employees.....	E8	13	(Z)	.3	(Z)	(Z)	.3	1.0	1.5	2.6	.1	.3
5 to 9 employees.....	E9	9	.1	.9	.1	.1	.7	3.4	4.7	8.1	.2	1.0
10 to 19 employees.....	E7	13	.2	2.3	.2	.3	1.6	7.2	10.0	17.3	16.6	2.1
20 to 49 employees.....	E4	21	.7	10.2	.6	1.2	6.9	26.3	40.8	67.2	(D)	7.3
50 to 99 employees.....	-	8	.5	9.1	.4	.8	6.4	29.6	43.5	76.6	1.3	6.9
100 to 249 employees.....	-	29	5.0	100.9	4.2	8.5	79.8	448.1	600.5	1 046.7	22.1	83.1
250 to 499 employees.....	-	20	7.3	158.3	6.0	11.4	121.1	707.2	750.4	1 467.6	25.9	85.8
500 to 999 employees.....	-	17	11.5	297.9	9.2	19.5	231.6	1 682.0	1 640.1	3 321.4	107.5	203.0
1,000 to 2,499 employees.....	-	8	11.5	283.4	8.2	17.2	193.0	1 436.1	1 645.1	3 078.6	97.4	250.4
Covered by administrative records ²	E9	13	.1	1.0	.1	.1	.8	3.3	4.6	7.9	.2	.6
INDUSTRY 2648, STATIONERY PRODUCTS												
Total.....	-	214	12.6	193.1	9.5	18.3	127.1	433.1	600.7	1 034.0	21.4	177.2
Establishments with an average of—												
1 to 4 employees.....	E9	38	.1	1.0	.1	.1	.8	2.4	3.5	5.9	.1	1.1
5 to 9 employees.....	E8	29	.2	2.8	.1	.3	2.0	5.7	8.1	13.8	.2	2.4
10 to 19 employees.....	E6	35	.5	6.5	.4	.7	3.9	12.9	16.2	29.1	.4	4.1
20 to 49 employees.....	E2	44	1.5	22.6	1.1	2.2	13.6	53.5	59.7	113.6	2.0	17.3
50 to 99 employees.....	E2	31	2.1	31.6	1.6	3.2	20.5	67.5	92.8	160.9	4.0	28.4
100 to 249 employees.....	E1	25	4.0	63.7	3.0	5.9	41.0	163.9	224.3	391.3	8.4	64.7
250 to 499 employees.....	-	11	4.2	65.0	3.2	5.9	45.3	127.2	195.9	319.2	6.2	59.3
500 to 999 employees.....	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	68	.5	5.3	.3	.7	3.7	10.9	16.6	27.4	.4	5.2
INDUSTRY 2649, CONVERTED PAPER PRODUCTS, N.E.C.												
Total.....	E1	776	27.2	435.4	19.7	38.4	266.4	1 149.7	1 235.3	2 399.3	67.2	416.0
Establishments with an average of—												
1 to 4 employees.....	E7	204	.4	5.1	.3	.5	4.0	13.3	15.2	28.5	.8	5.0
5 to 9 employees.....	E5	121	.9	11.7	.6	1.3	7.7	30.2	32.5	62.7	2.4	9.5
10 to 19 employees.....	E3	155	2.1	30.7	1.6	3.1	19.4	75.8	87.5	162.8	4.2	20.6
20 to 49 employees.....	E3	164	5.1	79.5	3.8	7.3	48.4	196.2	244.1	439.2	11.2	65.6
50 to 99 employees.....	E2	76	5.3	85.3	3.9	7.6	52.0	247.7	273.9	521.7	12.8	83.7
100 to 249 employees.....	E2	42	6.2	102.3	4.5	8.5	60.8	236.5	295.2	536.9	18.1	98.2
250 to 499 employees.....	-	8	2.8	45.9	2.0	3.7	29.5	106.7	100.3	213.8	3.8	41.9
500 to 999 employees.....	-	5	4.4	75.0	3.1	6.3	44.6	243.3	186.7	433.6	13.9	91.6
1,000 to 2,499 employees.....	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	169	.7	7.5	.6	1.0	5.1	21.1	21.4	42.5	.7	9.1

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1982—Con.

Note: For qualifications of data, see footnotes on table 1a. Data shown as a (D) are included in underscored figures above.

¹Payroll and sales data for some small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 percent or more.

²Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1982 were obtained from administrative records supplied by other agencies of the Federal Government. Those data were then used in conjunction with industry averages to estimate the items shown. Data are also included in respective size classes shown.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1982

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing data for individual companies. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes.]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2641	Paper coating and glazing:										
	Entire industry	574	43.1	882.4	29.5	59.1	529.3	2 330.5	3 117.2	5 454.0	200.8
	Establishments with 75 percent specialization or more ..	487	26.2	523.1	18.5	37.1	329.8	1 311.6	1 960.3	3 274.7	103.7
26411	Printing paper coated at establishments other than where paper was produced:										
	Establishments with this product class primary	46	2.6	50.9	1.7	3.1	29.4	109.1	141.0	251.9	6.3
	Establishments with 75 percent specialization or more in class	39	1.5	30.8	1.2	2.2	21.4	67.7	103.7	172.1	2.8
26413	Gummed products:										
	Establishments with this product class primary	21	1.8	37.1	1.3	2.6	22.1	79.9	122.1	201.8	3.4
	Establishments with 75 percent specialization or more in class	15	1.1	22.0	.7	1.5	11.9	47.5	74.7	122.2	2.0
26414	Pressure sensitive products:										
	Establishments with this product class primary	107	16.6	349.0	11.1	22.5	205.3	1 057.0	1 074.1	2 128.4	95.7
	Establishments with 75 percent specialization or more in class	81	9.0	185.4	6.0	11.7	108.9	475.2	577.2	1 057.1	31.8
26415	Single web paper, coated rolls and sheets, including waxed, for packaging uses:										
	Establishments with this product class primary	33	4.1	83.8	3.1	6.1	56.4	173.7	382.5	556.8	15.2
	Establishments with 75 percent specialization or more in class	16	.9	18.3	.6	1.4	10.6	46.5	84.2	130.9	3.4
26416	Single web film, coated roll and sheets, including coextruded, for packaging uses:										
	Establishments with this product class primary	10	1.1	20.8	.9	1.8	14.6	42.5	58.1	100.4	.8
	Establishments with 75 percent specialization or more in class	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
26419	Paper/paper multiweb laminations, for packaging uses:										
	Establishments with this product class primary	16	1.4	27.0	.9	1.7	15.1	51.9	91.0	142.3	2.6
	Establishments with 75 percent specialization or more in class	6	.3	5.1	.2	.5	3.7	13.8	36.9	50.3	.6
2641A	Multiweb laminated rolls and sheets except paper/paper and foil, for packaging uses:										
	Establishments with this product class primary	43	4.8	101.2	3.4	7.2	65.7	263.0	409.8	674.1	32.8
	Establishments with 75 percent specialization or more in class	24	2.1	39.0	1.6	3.3	28.9	113.1	193.7	307.3	17.4
2641B	Other coated and processed paper, except for packaging:										
	Establishments with this product class primary	48	7.0	146.4	4.4	8.6	79.0	415.5	644.7	1 067.0	30.7
	Establishments with 75 percent specialization or more in class	31	2.8	60.0	2.0	4.0	39.8	203.9	321.0	523.6	13.1
2642	Envelopes:										
	Entire industry	296	24.4	428.7	19.0	37.0	287.5	853.6	919.9	1 771.3	45.1
	Establishments with 75 percent specialization or more ..	286	23.6	415.7	18.5	36.0	279.8	829.6	899.9	1 727.3	44.0
2643	Bags, except textile bags:										
	Entire industry	577	50.2	850.9	39.9	78.7	597.7	2 055.5	2 972.5	5 037.6	140.8
	Establishments with 75 percent specialization or more ..	529	39.3	652.3	31.5	62.1	460.3	1 586.0	2 409.7	4 007.7	105.3
2643A	Grocers' bags and sacks, variety, shopping, uncoated:										
	Establishments with this product class primary	67	9.2	165.1	7.3	14.6	122.4	403.1	840.5	1 245.2	13.3
	Establishments with 75 percent specialization or more in class	56	6.8	121.2	5.6	11.1	92.2	317.8	675.2	994.1	8.4
2643S	Specialty bags and liners, single web paper, coated:										
	Establishments with this product class primary	20	2.5	43.1	2.1	4.2	27.9	106.8	133.2	236.8	3.5
	Establishments with 75 percent specialization or more in class	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
26436	Specialty bags and liners, single web film:										
	Establishments with this product class primary	170	20.3	355.2	15.5	30.8	235.0	960.3	1 086.2	2 053.3	81.1
	Establishments with 75 percent specialization or more in class	133	12.7	220.2	9.8	20.0	143.6	600.3	683.3	1 292.9	54.5
26437	Specialty bags and liners, multiweb laminations and foil:										
	Establishments with this product class primary	11	2.8	52.3	2.2	4.5	39.2	117.1	129.1	249.8	(D)
	Establishments with 75 percent specialization or more in class	7	1.1	19.0	.7	1.4	11.9	62.4	56.6	119.7	(D)
26438	Shipping sacks and multiwall bags, except textiles:										
	Establishments with this product class primary	70	10.4	168.3	8.6	16.4	127.2	333.2	553.3	887.0	20.3
	Establishments with 75 percent specialization or more in class	61	8.7	140.7	7.2	13.7	107.3	277.0	457.5	734.6	18.4
45	Die-cut paper and board:										
	Entire industry	398	15.9	245.9	12.6	23.7	168.6	708.7	975.4	1 680.1	32.7
	Establishments with 75 percent specialization or more ..	357	13.5	209.5	10.9	20.4	144.0	602.8	735.6	1 333.9	27.7
26453	Die-cut paper and board office supplies:										
	Establishments with this product class primary	91	8.8	129.3	6.9	12.9	91.1	322.7	321.6	642.2	18.7
	Establishments with 75 percent specialization or more in class	76	7.5	114.1	6.1	11.3	81.0	282.7	285.4	567.0	17.1

See footnotes at end of table.

Table 5a. **Industry Statistics by Industry and Primary Product Class Specialization: 1982—**
Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing data for individual companies. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes.]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2645	Die-cut paper and board—Con.										
26454	Die-cut paper and board products (other than office):										
	Establishments with this product class primary	60	2.6	40.5	2.0	3.8	26.3	102.0	105.6	206.0	6.2
	Establishments with 75 percent specialization or more in class	44	1.8	27.6	1.4	2.7	18.5	69.7	71.6	139.5	3.3
26455	Pasted, lined, laminated, or surface-coated paperboard:										
	Establishments with this product class primary	45	2.3	45.3	1.8	3.5	30.7	228.8	474.3	702.2	5.3
	Establishments with 75 percent specialization or more in class	39	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2646	Pressed and molded pulp goods:										
	Entire industry	32	3.2	60.7	2.6	5.3	47.9	140.8	99.3	236.2	7.1
	Establishments with 75 percent specialization or more ..	32	3.2	60.7	2.6	5.3	47.9	140.8	99.3	236.2	7.1
2647	Sanitary paper products:										
	Entire industry	138	36.7	863.3	28.8	59.0	641.3	4 341.0	4 736.6	9 086.0	271.1
	Establishments with 75 percent specialization or more ..	131	33.2	794.6	26.3	53.8	593.9	3 934.6	4 140.3	8 080.1	254.5
26471	Sanitary napkins and tampons:										
	Establishments with this product class primary	13	5.4	115.2	3.5	7.2	63.6	628.5	492.3	1 109.1	32.8
	Establishments with 75 percent specialization or more in class	12	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
26473	Disposable diapers, except diaper liners, paper:										
	Establishments with this product class primary	17	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
26474	Sanitary tissue health products:										
	Establishments with this product class primary	75	22.8	561.9	18.3	37.7	433.2	2 637.1	2 974.8	5 611.2	156.5
	Establishments with 75 percent specialization or more in class	66	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2648	Stationery products:										
	Entire industry	214	12.6	193.1	9.5	18.3	127.1	433.1	600.7	1 034.0	21.4
	Establishments with 75 percent specialization or more ..	179	7.8	116.5	5.8	11.2	74.2	255.1	311.7	570.5	10.5
26481	Stationery:										
	Establishments with this product class primary	35	3.2	45.9	2.3	4.3	26.4	100.4	73.6	173.4	2.3
	Establishments with 75 percent specialization or more in class	19	1.9	26.5	1.3	2.4	15.5	48.5	40.0	89.2	1.0
26482	Tablets, pads, and related products:										
	Establishments with this product class primary	72	7.8	127.3	6.1	11.7	87.2	293.4	471.4	765.6	17.2
	Establishments with 75 percent specialization or more in class	41	2.9	46.2	2.2	4.2	30.5	105.2	150.7	259.0	5.6
2649	Converted paper products, n.e.c.:										
	Entire industry	776	27.2	435.4	19.7	38.4	266.4	1 149.7	1 235.3	2 399.3	67.2
	Establishments with 75 percent specialization or more ..	708	20.7	321.0	15.1	29.4	195.8	788.1	950.5	1 750.5	40.6
26493	Wallcoverings:										
	Establishments with this product class primary	69	5.6	99.6	3.9	7.9	62.1	231.3	266.3	502.9	15.8
	Establishments with 75 percent specialization or more in class	61	4.1	66.1	2.8	5.4	40.3	140.1	175.3	322.6	10.9
26494	Gift wrap paper:										
	Establishments with this product class primary	16	4.6	71.8	3.2	6.2	41.1	229.7	155.6	394.0	(D)
	Establishments with 75 percent specialization or more in class	9	.9	13.8	.6	1.2	8.4	41.8	22.3	67.3	.7
26496	Paper business machine supplies, office supplies, n.e.c.:										
	Establishments with this product class primary	29	1.8	26.8	1.3	2.6	17.2	123.7	111.2	235.5	9.0
	Establishments with 75 percent specialization or more in class	22	.9	14.2	.7	1.4	8.8	40.1	61.4	102.2	2.9
26497	Other converted paper and board products:										
	Establishments with this product class primary	291	10.9	174.6	8.0	15.3	105.4	399.1	532.0	931.2	20.4
	Establishments with 75 percent specialization or more in class	255	8.7	135.8	6.4	12.2	81.6	317.3	441.9	759.5	17.4

Note: For qualifications of data, see footnotes on table 1a.

Table 5b. Industry-Product Analysis—Value of Shipments and Primary Product Shipments, Specialization and Coverage Ratios for the Industry: 1982 and Earlier Census Years

[An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and product group code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B ÷ Col. B+C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B ÷ Col. F (percent)
		A	B	C	D	E	F	G	H	I
2641	Paper coating and glazing ----- 1982..	5 454.0	4 136.8	1 130.2	187.0	79	4 903.1	4 136.8	766.3	84
	1977..	3 392.0	2 629.4	670.6	92.0	80	3 043.2	2 629.4	413.8	86
	1972..	1 954.0	1 426.1	442.2	85.7	76	1 650.5	1 426.1	224.4	86
2642	Envelopes ----- 1982..	1 771.3	1 643.3	37.7	90.3	98	1 751.6	1 643.3	108.2	94
	1977..	990.5	912.1	26.6	51.7	97	980.6	912.1	68.5	93
	1972..	620.8	558.7	24.6	37.5	96	587.9	558.7	29.2	95
2643	Bags, except textile bags ----- 1982..	5 037.6	4 379.1	555.7	102.8	89	4 772.8	4 379.1	393.6	92
	1977..	3 482.3	2 981.0	419.9	81.4	88	3 304.1	2 981.0	323.1	90
	1972..	1 885.7	1 617.4	218.9	49.4	88	1 829.4	1 617.4	212.0	88
2645	Die-cut paper and board ----- 1982..	1 680.1	1 457.5	146.8	75.8	91	1 605.1	1 457.5	147.6	91
	1977..	1 057.7	871.6	118.0	68.1	88	1 034.3	871.6	162.7	84
	1972..	676.3	572.5	71.5	32.3	89	645.9	572.5	73.5	89
2646	Pressed and molded pulp goods ----- 1982..	236.2	236.1	-	.1	100	242.3	236.1	6.2	97
	1977..	240.3	236.3	3.6	.4	98	239.6	236.3	3.3	99
	1972..	162.8	156.9	3.4	2.5	98	161.6	156.9	4.7	97
2647	Sanitary paper products ----- 1982..	9 086.0	8 223.9	493.7	368.4	94	8 373.5	8 223.9	149.6	98
	1977..	4 921.2	4 502.3	343.5	75.4	93	4 562.6	4 502.3	60.3	99
	1972..	2 071.8	1 915.7	111.0	45.1	95	1 981.9	1 915.7	66.2	97
2648	Stationery products ----- 1982..	1 034.0	701.3	185.7	146.9	79	959.2	701.3	257.9	73
	1977..	651.7	502.6	81.1	68.0	86	630.5	502.6	127.9	80
	1972..	450.5	344.1	63.0	43.4	85	421.5	344.1	77.4	82
2649	Converted paper products, n.e.c. ----- 1982..	2 399.3	1 959.7	312.5	127.1	86	2 436.1	1 959.7	476.4	80
	1977..	1 697.5	1 413.8	195.4	88.3	88	1 748.8	1 413.8	335.0	81
	1972..	630.6	490.0	101.2	39.4	83	661.8	490.0	171.8	74

Table 5c-1. Industry-Product Analysis—Shipments by Product Class and Industry: 1982

[Million dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least \$2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed in table 5c-2 if they account for more than \$5 million of products primary to this chapter. For meaning of abbreviations and symbols, see explanatory text. For explanation of terms, see appendixes]

1982 product code	Product group, product class, and miscellaneous receipts	All industries	Paper coating and glazing (SIC 2641)	Envelopes (SIC 2642)	Bags, except textile bags (SIC 2643)	Die-cut paper and board (SIC 2645)	Pressed and molded pulp goods (SIC 2646)	Sanitary paper products (SIC 2647)	Stationery products (SIC 2648)	Converted paper products, n.e.c. (SIC 2649)	Other industries
	Total -----	(X)	5 454.0	1 771.3	5 037.6	1 680.1	236.2	9 086.0	1 034.0	2 399.3	(X)
	Primary products -----	(X)	4 136.8	1 643.3	4 379.1	1 457.5	236.1	8 223.9	701.3	1 959.7	(X)
	Secondary products -----	(X)	1 130.2	37.7	555.7	146.8	-	493.7	185.7	312.5	(X)
	Miscellaneous receipts -----	(X)	187.0	90.3	102.8	75.8	.1	368.4	146.9	127.1	(X)
2641-	Coated and glazed paper -----	4 903.1	4 136.8	(D)	127.0	(D)	-	(D)	-	17.0	584.7
26411	Printing paper coated at establishments other than where paper was produced -----	241.6	(D)	-	(D)	-	-	-	-	-	(D)
26413	Gummed products -----	211.9	202.0	-	(D)	-	-	-	-	(D)	8.1
26414	Pressure sensitive products -----	1 867.6	1 530.3	(D)	-	8.1	-	-	-	(D)	325.5
26415	Single web paper, coated rolls and sheets, including waxed, for packaging uses -----	433.9	366.5	-	13.0	-	-	(D)	-	(D)	49.7
26416	Single web film, coated roll and sheets, including coextruded, for packaging uses -----	168.2	154.2	-	(D)	-	-	-	-	(D)	.9
26419	Paper/paper multiweb laminations, for packaging uses -----	182.3	(D)	-	(D)	(D)	-	-	-	(D)	26.9
2641A	Multiweb laminated rolls and sheets except paper/paper and foil, for packaging uses -----	544.8	472.1	-	52.8	-	-	-	-	(D)	(D)
2641B	Other coated and processed paper, except for packaging -----	900.3	725.0	-	26.2	(D)	-	(D)	-	-	(D)
26410	Coated and glazed paper, n.s.k. -----	352.6	322.0	-	(D)	(D)	-	(D)	-	-	29.8
26420	Envelopes, all types and materials (except stationery) -----	1 751.6	(D)	1 643.3	-	(D)	-	-	54.0	(D)	38.0
2643-	Bags, except textile bags -----	4 772.8	81.3	-	4 379.1	-	-	(D)	-	(D)	(D)
26434	Grocers' bags and sacks, variety, shopping, uncoated -----	1 163.8	11.3	-	1 116.9	-	-	(D)	-	(D)	(D)
26435	Specialty bags and liners, single web paper, coated -----	205.5	16.1	-	177.4	-	-	(D)	-	-	(D)
26436	Specialty bags and liners, single web film -----	1 964.0	35.1	-	1 726.2	-	-	-	-	-	202.7
26437	Specialty bags and liners, multiweb laminations and foil -----	222.1	6.6	-	191.2	-	-	-	-	-	24.3
26438	Shipping sacks and multiwall bags, except textiles -----	846.5	6.4	-	826.7	-	-	-	-	-	13.4
26430	Bags, except textile bags, n.s.k. -----	370.9	5.7	-	340.7	-	-	(D)	-	-	(D)

See footnotes at end of table.

Table 5c-1. Industry-Product Analysis—Shipments by Product Class and Industry: 1982—Con.

(Million dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least \$2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed in table 5c-2 if they account for more than \$5 million of products primary to this chapter. For meaning of abbreviations and symbols, see explanatory text. For explanation of terms, see appendixes)

1982 product code	Product group, product class, and miscellaneous receipts	All industries	Paper coating and glazing (SIC 2641)	Envelopes (SIC 2642)	Bags, except textile bags (SIC 2643)	Die-cut paper and board (SIC 2645)	Pressed and molded pulp goods (SIC 2646)	Sanitary paper products (SIC 2647)	Stationery products (SIC 2648)	Converted paper products, n.e.c. (SIC 2649)	Other industries
2645-	Die-cut paper and board	1 605.1	24.4	12.2	(D)	1 457.5	-	-	13.8	(D)	(D)
26453	Die-cut paper and board office supplies	597.9	(D)	9.8	-	532.2	-	-	(D)	(D)	29.3
26454	Die-cut paper and board products (other than office)	199.4	(D)	(D)	-	180.3	-	-	(D)	(D)	15.0
26455	Pasted, lined, laminated, or surface-coated paperboard	684.8	(D)	(D)	(D)	624.5	-	-	-	(D)	41.7
26450	Die-cut paper and board products, n.s.k.	123.0	-	-	-	120.5	-	-	-	(D)	(D)
26460	Pressed and molded pulp goods	242.3	(D)	-	-	-	236.1	-	-	-	(D)
2647-	Sanitary paper products	8 373.5	(D)	-	-	-	-	8 223.9	-	9.3	(D)
26471	Sanitary napkins and tampons	915.1	-	-	-	-	-	(D)	-	-	(D)
26473	Disposable diapers, except diaper liners, paper	2 158.5	-	-	-	-	-	(D)	-	-	(D)
26474	Sanitary tissue health products	5 259.8	-	-	-	-	-	5 137.5	-	9.3	113.0
26470	Sanitary paper products, n.s.k.	40.1	(D)	-	-	-	-	(D)	-	-	(D)
2648-	Stationery products	959.2	(D)	14.5	-	(D)	-	-	701.3	10.5	(D)
26481	Stationery	261.8	-	12.4	-	(D)	-	-	(D)	-	84.5
26482	Tablets, pads, and related products	603.1	(D)	2.1	-	(D)	-	-	448.6	(D)	(D)
26480	Stationery products, n.s.k.	94.4	-	-	-	-	-	-	(D)	-	(D)
2649-	Converted paper products, n.e.c.	2 436.1	75.2	(D)	(D)	4.3	-	(D)	44.9	1 959.7	277.9
26493	Wallcoverings	396.9	(D)	-	-	-	-	-	-	385.0	(D)
26494	Gift wrap paper	389.6	11.8	-	(D)	(D)	-	(D)	(D)	252.2	(D)
26496	Paper business machine supplies, office supplies, n.e.c.	221.8	(D)	(D)	(D)	4.0	-	-	23.0	175.1	(D)
26497	Other converted paper and board products	1 082.6	40.9	(D)	21.6	(D)	-	(D)	(D)	819.4	152.4
26490	Converted paper products, n.e.c., n.s.k.	345.2	(D)	-	-	(D)	-	-	(D)	327.9	1.3
OTHER SHIPMENTS BY FOUR-DIGIT PRODUCT GROUP											
2141-	Tobacco stemming and redrying	(X)	-	-	-	-	-	-	-	(D)	(X)
2293-	Paddings and upholstery filling	(X)	-	-	-	(D)	-	(D)	-	-	(X)
2294-	Processed textile waste	(X)	(D)	-	-	-	-	-	-	-	(X)
2295-	Coated fabrics, not rubberized	(X)	(D)	-	(D)	-	-	-	-	(D)	(X)
2392-	House furnishings, n.e.c.	(X)	-	-	-	-	-	-	(D)	(D)	(X)
2393-	Textile bags	(X)	-	-	12.3	-	-	-	-	-	(X)
2499-	Wood products, n.e.c.	(X)	-	-	-	-	-	-	-	-	(X)
2522-	Metal office furniture	(X)	-	(D)	-	(D)	-	-	-	(D)	(X)
2621-	Paper mill products, except building paper	(X)	(D)	(D)	(D)	-	-	-	(D)	3.8	(X)
2631-	Paperboard mill products	(X)	-	-	-	-	-	-	(D)	3.7	(X)
2651-	Folding paperboard boxes	(X)	-	-	(D)	(D)	-	-	(D)	(D)	(X)
2652-	Set-up paperboard boxes	(X)	-	(D)	(D)	2.7	-	-	(D)	-	(X)
2654-	Sanitary food containers	(X)	(D)	(D)	-	-	-	(D)	(D)	(D)	(X)
2741-	Miscellaneous publishing	(X)	-	-	-	-	-	-	-	(D)	(X)
2751-	Commercial printing, letterpress	(X)	118.1	.9	74.4	4.9	-	(D)	(D)	(D)	(X)
2752-	Commercial printing, lithographic	(X)	(D)	1.4	-	(D)	-	-	(D)	(D)	(X)
2753-	Engraving and plate printing	(X)	-	-	-	-	-	-	(D)	-	(X)
2754-	Commercial printing, gravure	(X)	49.1	-	(D)	-	-	-	-	-	(X)
2761-	Manifold business forms	(X)	-	(D)	-	6.1	-	-	(D)	(D)	(X)
2771-	Greeting card publishing	(X)	-	-	-	-	-	-	(D)	25.5	(X)
2782-	Blankbooks and looseleaf binders	(X)	-	(D)	-	(D)	-	-	49.6	(D)	(X)
2821-	Plastics materials and resins	(X)	-	-	(D)	(D)	-	-	-	-	(X)
2842-	Polishes and sanitation goods	(X)	(D)	-	(D)	-	-	(D)	-	-	(X)
2844-	Toilet preparations	(X)	-	-	-	-	-	(D)	-	-	(X)
2851-	Paints and allied products	(X)	(D)	-	(D)	-	-	-	-	-	(X)
2891-	Adhesives and sealants	(X)	(D)	-	-	-	-	-	-	-	(X)
2899-	Chemical preparations, n.e.c.	(X)	-	-	(D)	-	-	-	-	-	(X)
3069-	Fabricated rubber products, n.e.c.	(X)	-	-	(D)	(D)	-	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	14.5	-	-	(D)	-	(D)	-	(D)	(X)
3497-	Metal foil and leaf	(X)	147.1	(D)	265.6	4.7	-	(D)	-	45.1	(X)
			105.0	-	(D)	(D)	-	-	-	21.9	(X)
3569-	General industrial machinery, n.e.c.	(X)	(D)	-	(D)	(D)	-	-	-	-	(X)
3573-	Electronic computing equipment	(X)	(D)	-	-	-	-	-	-	-	(X)
3579-	Office machines, n.e.c., and typewriters	(X)	(D)	(D)	-	(D)	-	-	-	-	(X)
3679-	Electronic components, n.e.c.	(X)	(D)	-	-	-	-	-	-	-	(X)
3842-	Surgical appliances and supplies	(X)	14.6	-	-	-	-	104.5	-	(D)	(X)
3861-	Photographic equipment and supplies	(X)	144.0	-	(D)	(D)	-	-	-	(D)	(X)
3951-	Pens and mechanical pencils	(X)	-	-	-	-	-	-	-	(D)	(X)
3953-	Marking devices	(X)	(D)	-	-	-	-	-	-	-	(X)
3955-	Carbon paper and inked ribbons	(X)	(D)	-	-	-	-	-	-	-	(X)
3964-	Needles, pins, and fasteners	(X)	(D)	-	(D)	-	-	-	-	(D)	(X)
3999-	Manufacturing industries, n.e.c.	(X)	(D)	-	-	-	-	(D)	-	(D)	(X)
MISCELLANEOUS RECEIPTS											
93000 00	Receipts for work done for others on their materials	(X)	15.9	7.5	3.6	22.9	-	(D)	1.1	10.5	(X)
99980 13	Sales of scrap and refuse	(X)	2.6	23.9	12.3	1.4	(D)	8.2	2.3	3.5	(X)
99980 41	Receipts for research and development work	(X)	(D)	(D)	-	-	-	-	-	-	(X)
99980 98	Other miscellaneous receipts, including receipts for repair work, etc.	(X)	(D)	3.4	2.9	(D)	(D)	(D)	(D)	1.3	(X)
99980 00	Miscellaneous receipts, n.s.k.	(X)	(D)	(D)	.4	(D)	-	(D)	(D)	1.1	(X)
99989 00	Sales of products bought and resold without further manufacture, processing, or assembly at establishment	(X)	155.3	54.5	83.6	49.3	(Z)	359.2	142.8	110.7	(X)

Table 5c-2. Industry-Product Analysis—Other Industries With Shipments of Primary Products: 1982

[Million dollars. Table is a continuation of table 5c-1 and shows where products of industries in this chapter (referred to as primary products and listed in table 6a) are made. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column of table 5c-1. Specified "Other industries" are listed in this table if they account for more than \$5 million of products primary to this chapter. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendices]

1982 product code	Other industries	Value	1982 product code	Other industries	Value
2641-	COATED AND GLAZED PAPER		2645-	DIE-CUT PAPER AND BOARD	
2295	Coated fabrics, not rubberized	(D)	2621	Paper mills, except building paper	(D)
2297	Nonwoven fabrics	(D)	2631	Paperboard mills	(D)
2621	Paper mills, except building paper	(D)	2761	Manifold business forms	(D)
2751	Commercial printing, letterpress	57.3	2782	Blankbooks and looseleaf binders	8.8
2752	Commercial printing, lithographic	8.0	2647-	SANITARY PAPER PRODUCTS	
2761	Manifold business forms	(D)	2297	Nonwoven fabrics	(D)
2851	Paints and allied products	(D)	2621	Paper mills, except building paper	(D)
2899	Chemical preparations, n.e.c.	(D)	2654	Sanitary food containers	30.0
3079	Miscellaneous plastics products	46.2	3842	Surgical appliances and supplies	33.0
3291	Abrasive products	(D)	2648-	STATIONERY PRODUCTS	
3497	Metal foil and leaf	52.2	2771	Greeting card publishing	69.7
3679	Electronic components, n.e.c.	(D)	2782	Blankbooks and looseleaf binders	79.0
3842	Surgical appliances and supplies	(D)	2649-	CONVERTED PAPER PRODUCTS, N.E.C.	
2642-	ENVELOPES		2111	Cigarettes	(D)
2752	Commercial printing, lithographic	31.5	2131	Chewing and smoking tobacco	(D)
2643-	BAGS, EXCEPT TEXTILE BAGS		2621	Paper mills, except building paper	5.7
2393	Textile bags	12.9	2651	Folding paperboard boxes	7.9
2653	Corrugated and solid fiber boxes	(D)	2653	Corrugated and solid fiber boxes	7.1
2654	Sanitary food containers	(D)	2654	Sanitary food containers	12.5
2751	Commercial printing, letterpress	16.8	2741	Miscellaneous publishing	(D)
2771	Greeting card publishing	(D)	2751	Commercial printing, letterpress	9.5
3079	Miscellaneous plastics products	174.8	2771	Greeting card publishing	146.8
3497	Metal foil and leaf	23.1	3079	Miscellaneous plastics products	17.7
			3861	Photographic equipment and supplies	(D)

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1982 and 1977

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1982 product code	Product	1982			1977		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
	PAPER COATING AND GLAZING						
2641- —	Total	(NA)	(X)	4 903.1	(NA)	(X)	*3 043.2
26411 —	Printing paper coated at establishments other than where paper was produced	(NA)	(X)	241.6	(NA)	(X)	172.0
26411 13	Coated one side (for labels and similar uses)	39	(S)	131.8	26	**86.2	95.9
26411 53	Coated two sides (for printing of magazines, directories, catalogs, and similar uses)	15	**78.7	99.2	10	**79.4	66.4
26411 00	Printing paper coated at establishments other than where paper was produced, n.s.k.	(NA)	(X)	10.7	(NA)	(X)	9.7
26413 —	Gummed products:						
26413 00	Gummed products:						
	As reported in the census of manufactures	40	(X)	211.9	(NA)	(X)	187.6
	As reported in Current Industrial Report MA-26B, Selected Office Supplies and Accessories	(NA)	(X)	211.3	(NA)	(X)	(³)
26413 12	Gummed sealing tape, paper base and reinforced base, used for sealing and securing	(NA)	(X)	111.4	22	*134.8	112.6
26413 14	Corrugator's box gummed tape used on manufacturers' joints of corrugated boxes	(NA)	(X)	26.2	12	(S)	24.6
26413 31	Gummed flat paper, including stock labels, unprinted	(NA)	(X)	49.8	16	(S)	50.1
26413 99	Gummed products, n.s.k.	(NA)	(X)	24.0	(NA)	(X)	.3
26414 —	Pressure sensitive products:						
26414 00	Pressure sensitive products:						
	As reported in the census of manufactures	140	(X)	1 867.6	(NA)	(X)	1 177.7
	As reported in Current Industrial Report MA-26B, Selected Office Supplies and Accessories	(NA)	(X)	1 766.9	(NA)	(X)	(³)
	Pressure sensitive tape, excluding rubber backed: Single faced tape:						
26414 13	Paper backing, excluding electrical	(NA)	(X)	427.1	25	(S)	278.5
26414 33	Cloth backing, excluding electrical and surgical adhesive	(NA)	(X)	82.5	14	61.6	59.0
	Film backing, excluding electrical, including cellophane, polyethylene, polypropylene, PVC, and other film backing materials:						
26414 42	Film backed carton sealing tape	(NA)	(X)	(D)	20	(S)	256.0
26414 44	Other film backed tapes, including anticorrosive and transparent tape	(NA)	(X)	(D)			

See footnotes at end of table.

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1982 and 1977—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1982 product code	Product	1982			1977		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
	PAPER COATING AND GLAZING—Con.						
26414 — 26414 00	Pressure sensitive products—Con. Pressure sensitive products—Con. As reported in Current Industrial Report MA-26B, Selected Office Supplies and Accessories —Con. Pressure sensitive tape, excluding rubber backed:— Con. Single faced tape—Con. Electrical, all backings ----- mil sq yd...	(NA) (NA) (NA) (NA) (NA)	(X) (X) (X) (X) (X)	80.7 95.1 17.4 41.0	(NA) 12 10 13	(D) (S) (D) (D)	(D) 87.0 (D) (D)
26414 45 26414 53 26414 59 26414 61	Reinforced and laminated tape, all backings ----- do.. Other backings, excluding rubber ----- do.. Doubled faced tape ----- do..	(NA) (NA) (NA) (NA)	(X) (X) (X) (X)	(D) (D) 241.3 77.9	39 18 11 (NA)	(S) *547.9 (S) (X)	110.8 185.1 37.4 17.9
26414 77 26414 79 26414 81 26414 85 26414 99	Pressure sensitive labels, unprinted: Marginally punched ----- bil sq in.. Other ----- do.. Pressure sensitive base stock for labels ----- do.. Pressure sensitive base stock for other than labels ----- do.. Pressure sensitive products, n.s.k. ----- do..	(NA) (NA) (NA) (NA) (NA) (NA)	(X) (X) (X) (X) (X) (X)	(D) (D) 241.3 77.9 372.1	39 18 11 (NA)	(S) *547.9 (S) (X)	110.8 185.1 37.4 17.9
26415 — 26415 00	Single web paper, coated rolls and sheets, including waxed, for packaging uses ⁴ : Single web paper, coated rolls and sheets, including waxed, for packaging uses ----- 1,000 s tons..	53	346.9	433.9	(NA)	195.4	354.5
26416 — 26416 11 26416 12 26416 00	Single web film, coated rolls and sheets, including coextruded, for packaging uses ⁴ ----- 1,000 s tons.. Single web film, coated ----- do.. Coextruded films ----- do.. Single web film, coated rolls and sheets, including coextruded, for packaging uses, n.s.k. ----- do..	(NA) 27 9 (NA)	(X) (S) (S) (X)	168.2 143.1 25.1 —	(NA) (NA) (NA) (NA)	(X) (S) (S) (X)	119.3 119.3 —
26419 — 26419 11 26419 12 26419 00	Paper/paper multiweb laminations, for packaging uses ⁴ ----- 1,000 s tons.. Polyethylene laminated ----- do.. Other laminations ----- do.. Paper/paper multiweb laminations, for packaging uses, n.s.k. ----- do..	(NA) 19 16 (NA)	(X) **69.4 *100.8 (X)	182.3 74.7 107.6 —	(NA) (NA) (NA) (NA)	(X) (X) (X) (X)	—
2641A — 2641A 11 2641A 12 2641A 13 2641A 14 2641A 15 2641A 16 2641A 00	Multiweb laminated rolls and sheets, except paper/paper and foil, for packaging uses ⁴ ----- 1,000 s tons.. Film/paper multiweb laminations ----- do.. Film/film multiweb laminations: Polypropylene/polypropylene ----- do.. Cellophane/polypropylene ----- do.. Cellophane/polyethylene ----- do.. Metallized film/film laminates ----- do.. Other film/film laminations ----- do.. Multiweb laminated rolls and sheets, except paper/paper and foil, for packaging uses, n.s.k. ----- do..	(NA) 15 23 15 19 13 27 (NA)	(X) (X) (S) (S) (S) (S) (S) (X)	544.8 104.5 92.6 35.3 53.0 50.3 209.1 —	(NA) (NA) (NA) (NA) (NA) (NA) (NA) (NA)	(X) (X) (D) (D) (D) (S) (S) (X)	5313.3 — — — — — — —
2641B — 2641B 11 2641B 21 2641B 45 2641B 51 2641B 53 2641B 98 2641B 00 26410 00 26410 02	Other coated and processed paper, except for packaging uses ----- 1,000 s tons.. Casein and similarly coated paper ----- do.. Special coated paper (mica, pyroxylin, lacquer, metallic other than foil, etc.) ----- do.. Processed paper (embossed, leatherette, etc.) ----- do.. Oiled and similarly treated paper ----- do.. Waxed and wax-laminated paper for nonpackaging uses, including household ----- do.. Other coated and processed paper, including soap impregnated paper and plastics coated paper, but excluding sensitized paper ----- do.. Other coated and processed paper, except for packaging uses, n.s.k. ----- do.. Paper coating and glazing, n.s.k., typically for establishments with 10 employees or more (see note) ----- do.. Paper coating and glazing, n.s.k., typically for establishments with less than 10 employees (see note) ----- do..	(NA) 5 14 10 10 9 49 (NA) (NA) (NA) (NA) (NA)	(X) (D) (D) (D) (D) (D) (D) (X) (X) (X) (X) (X)	900.3 (D) (D) 71.4 27.3 59.2 491.6 12.8 284.4 68.2	(NA) 6 7 11 8 9 36 (NA) (NA) (NA) (NA) (NA)	(X) (D) (D) (D) (S) (S) (S) (X) (X) (X) (X) (X)	489.9 (D) (D) 44.4 13.0 55.8 196.5 4.1 152.7 76.2

See footnotes at end of table.

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1982 and 1977—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1982 product code	Product	1982			1977		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
ENVELOPES							
2642—	Total -----	(NA)	(X)	1 751.6	(NA)	(X)	980.6
26420 —	Envelopes, all types and materials, excluding stationery envelopes:						
26420 00	Envelopes, all types and materials, excluding stationery envelopes:						
	As reported in the census of manufactures ----- millions..	266	(X)	1 727.5	213	*94 565.6	960.3
	As reported in Current Industrial Report MA-26B, Selected Office Supplies and Accessories ----- do..	(NA)	(X)	1 712.4			
26420 21	Clasp and string-and-button envelopes, including mailing ----- do..	(NA)	11 171.6	247.0			
	Mailing envelopes, all types, except clasp and string-and-button:				(NA)	(NA)	(⁶)
26420 23	White or colored wove mailing envelopes ----- do..	(NA)	77 832.5	886.6			
26420 25	Kraft mailing envelopes ----- do..	(NA)	16 800.8	269.5			
26420 27	Padded shipping envelopes, all types ----- do..	(NA)	(D)	(D)			
26420 29	All other envelopes ----- do..	(NA)	(D)	(D)			
26420 30	Envelopes, n.s.k. -----	(NA)	(X)	120.8			
26420 02	Envelopes, n.s.k., typically for establishments with less than 10 employees (see note) -----	(NA)	(X)	24.1	(NA)	(X)	20.3
BAGS, EXCEPT TEXTILE BAGS							
2643—	Total -----	(NA)	(X)	4 772.8	(NA)	(X)	3 304.1
26434 —	Grocers' bags and sacks, variety, and shopping bags, uncoated paper -----	(NA)	(X)	1 163.8	(NA)	(X)	801.6
26434 11	Grocers' bags and sacks, uncoated paper ----- 1,000 s tons..	29	**1 913.1	917.1	24	1 699.0	612.6
26434 12	Variety bags (merchandise), uncoated paper ----- do..	26	*212.8	152.6	18	255.1	139.7
26434 13	Shopping bags, uncoated paper ----- do..	4	*30.0	73.4	9	742.0	733.2
26434 15	Other uncoated paper bags, n.e.c. (mothproof, etc.), excluding speciality bags ----- do..	12	**56.1	56.8	9	*21.9	12.3
26434 00	Grocer's bags and sacks, variety, and shopping bags, uncoated paper, n.s.k. -----	(NA)	(X)	—	(NA)	(X)	3.9
26435 —	Specialty bags and liners, single web paper, coated ⁴ :						
26435 00	Specialty bags and liners, single web paper, coated ----- 1,000 s tons..	39	*153.1	7205.5	(NA)	(S)	7210.6
26436 —	Specialty bags and liners, single web film ⁴ -----	(NA)	(X)	1 964.0			
26436 11	Polyethylene: Grocery and variety ----- 1,000 s tons..	49	*137.1	277.9			
26436 12	Refuse ----- do..	51	*422.7	572.0			
26446 13	Produce ----- do..	44	**87.2	158.8			
26436 14	Textile and clothing ----- do..	33	(S)	63.4			
26436 15	Drum and box liners ----- do..	33	*94.3	95.2			
26436 16	Shipping sacks ----- do..	18	*22.2	38.6			
26436 17	Household food storage (sandwich and freezer) ----- do..	16	(S)	155.6			
26436 18	Other ----- do..	65	**307.1	7417.6	(NA)	⁸ (S)	⁸ 1 239.7
26436 21	Coextruded film ----- do..	14	**79.4	106.5			
26436 23	Other film ----- do..	25	(S)	778.4			
26436 00	Specialty bags and liners, single web film, n.s.k. -----	(NA)	(X)	—			
26437 —	Specialty bags and liners, multiweb laminations and foil ⁴ :						
26437 00	Specialty bags and liners, multiweb laminations and foil (paper/paper, film/paper, film/film, and all laminations containing foil) ----- 1,000 s tons..	32	(S)	7222.1			
26438 —	Shipping sacks and multiwall bags, all materials except textiles -----	(NA)	(X)	846.5	(NA)	(X)	672.6
26438 11	Single and double wall ----- 1,000 s tons..	29	**131.3	104.5	29	*128.8	96.5
26438 12	Multiwall (three plies or more) ----- do..	31	*794.0	742.0	33	868.8	562.3
26438 00	Shipping sacks and multiwall bags, all materials except textiles, n.s.k. -----	(NA)	(X)	—	(NA)	(X)	13.9
26430 00	Bags, except textile bags, n.s.k., typically for establishments with 10 employees or more (see note) -----	(NA)	(X)	282.5	(NA)	(X)	296.8
26430 02	Bags, except textile bags, n.s.k., typically for establishments with less than 10 employees (see note) -----	(NA)	(X)	88.5	(NA)	(X)	82.8

See footnotes at end of table.

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1982 and 1977—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1982 product code		Product	1982			1977		
			Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
				Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
DIE-CUT PAPER AND BOARD								
2645- --	Total -----	(NA)	(X)	1 605.1	(NA)	(X)	1 034.3	
26453 --	Die-cut paper and board office supplies:							
26453 00	Die-cut paper and board office supplies: As reported in the census of manufactures ----- As reported in Current Industrial Report MA-26B, Selected Office Supplies and Accessories -----	100	(X)	597.9	(NA)	(X)	*378.7	
26453 11	Index cards (100 count basis) ----- mil units--	(NA)	(X)	559.1	(NA)	(³)	(³)	
26453 12	Expanding file folders, including wallets ----- do--	(NA)	(S)	21.2	20	(NA)	18.3	
26453 13	Hanging folders ----- do--	(NA)	95.4	44.7	14	(NA)	36.1	
26453 16	Other file folders, including file pockets and file jackets ----- do--	(NA)	(S)	61.0	30	(NA)	79.8	
26453 19	Guide cards, including guides for file folders ----- do--	(NA)	175.8	18.1	15	(NA)	17.8	
26453 21	Other die-cut paper and paperboard office supplies, including presentation and report covers, excluding looseleaf ----- do--	(NA)	(S)	47.3	23	(NA)	47.6	
26453 53	Single cut tabulating cards, standard size (3-1/4 in. x 7-3/8 in.) ----- do--	(NA)	31 036.3	110.0	(NA)	170.6	135.3	
26453 55	Single cut tabulating cards, other sizes, excluding continuous ----- do--	(NA)	3 816.2	23.2	(NA)	(X)	*43.8	
26453 59	Die-cut paper and board office supplies, n.s.k. -----	(NA)	(X)	96.4	(NA)	(X)	*43.8	
26454 --	Die-cut paper and board products (other than office) -----	(NA)	(X)	199.4	(NA)	(X)	*106.2	
26454 61	Cards, die-cut and designed, not printed ----- 1,000 s tons--	39	(S)	57.9	18	**32.3	31.4	
26454 71	Automotive board products (panel, trim, etc.) ----- do--	5	*36.5	41.5	8	**29.3	27.1	
26454 97	Other, including fillers and flats for egg cases, except molded pulp, bottle caps, closures and lids, excluding labels ----- do--	44	(S)	100.1	32	(S)	47.7	
26454 00	Die-cut paper and board products (other than office), n.s.k. -----	(NA)	(X)	-	(NA)	(X)	(⁹)	
26455 --	Pested, lined, laminated, or surface-coated paperboard:							
26455 00	Pasted, lined, laminated, or surface-coated paperboard ----- 1,000 s tons--	60	*1 057.8	684.8	53	947.9	438.4	
26450 00	Die-cut paper and board, n.s.k., typically for establishments with 10 employees or more (see note) -----	(NA)	(X)	80.5	(NA)	(X)	69.6	
26450 02	Die-cut paper and board, n.s.k., typically for establishments with less than 10 employees (see note) -----	(NA)	(X)	42.5	(NA)	(X)	41.4	
PRESSED AND MOLDED PULP GOODS								
2646- --	Total -----	(NA)	(X)	242.3	(NA)	(X)	239.6	
26460 --	Pressed and molded pulp goods:							
26460 11	Egg cartons, plates and dishes, prepackaging trays and boards for meats, produce, and other food trays (quantity of wood pulp and waste paper consumed) ----- 1,000 s tons--	3	(D)	(D)	5	(D)	(D)	
26460 19	Other molded pulp and papier-mache articles, including bituminous fiber pipe, sewer and drainage, conduit and fittings ----- do--	12	(D)	(D)	12	(X)	(D)	
26460 00	Pressed and molded pulp goods, n.s.k., typically for establishments with 10 employees or more (see note) -----	(NA)	(X)	(D)	(NA)	(X)	(D)	
26460 02	Pressed and molded pulp goods, n.s.k., typically for establishments with less than 10 employees (see note) -----	(NA)	(X)	2.9	(NA)	(X)	2.1	
SANITARY PAPER PRODUCTS								
2647- --	Total -----	(NA)	(X)	8 373.5	(NA)	(X)	4 562.3	
26471 --	Sanitary napkins and tampons -----	(NA)	(X)	915.1	(NA)	(X)	588.7	
26471 14	Sanitary napkins, including maternity pads ----- millions--	6	13 213.3	913.2	4	(S)	588.7	
26471 51	Tampons ----- do--	4	(X)	1.9	-	(X)	-	
26471 00	Sanitary napkins and tampons, n.s.k. -----	(NA)	(X)	1.9	-	(X)	-	
26473 --	Disposable diapers, except diaper liners, paper:							
26473 00	Disposable diapers, except diaper liners, paper (usually contains pulp or cellulose fibers) ----- millions--	8	15 862.3	2 158.5	7	10 411.4	839.9	
26473 88	Disposable diapers (quantity of wood pulp and paper consumed in the manufacture of disposable diapers reported in code 26473 00 above) ----- 1,000 s tons--	(NA)	(S)	(X)	(NA)	549.3	(X)	
26474 --	Sanitary tissue health products -----	(NA)	(X)	5 259.8	(NA)	(X)	3 108.1	
26474 11	Facial tissues and handkerchiefs, including sputum wipes ----- 1,000 s tons--	15	(S)	584.4	15	315.1	358.4	
	Table napkins, including plain creped, and facial tissues: Industrial (bulk and dispenser type):							
	Regular type, single ply:							
	Bulk ----- do--	14	*157.0	206.1	9	63.3	57.7	
26474 27	Dispenser ----- do--	9	*139.4	170.5	7	101.4	88.7	
26474 33	Facial tissue type, 2 ply or more ----- do--	9	*67.9	107.6	8	49.6	57.8	
	Retail packages (resale):							
	Regular type, single ply ----- do--	17	*167.2	229.1	13	145.2	140.2	
26474 35	Facial tissue type, 2 ply or more ----- do--	14	**56.1	79.7	19	74.9	98.0	

See footnotes at end of table.

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1982 and 1977—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1982 product code	Product	1982			1977		
		Number of companies with shipments of \$100,000 or more	Product shipments¹		Number of companies with shipments of \$100,000 or more	Product shipments¹	
			Quantity²	Value (million dollars)		Quantity²	Value (million dollars)
	SANITARY PAPER PRODUCTS—Con.						
26474 —	Sanitary tissue health products —Con.						
	Toilet tissue:						
	Rolls and ovals:						
	Industrial:						
26474 41	Facial tissue type, 2 ply or more ----- 1,000 s tons..	15	*151.3	161.5	10	98.4	78.9
26474 43	Regular type, single ply ----- do..	13	158.7	150.2	12	105.7	77.4
	Retail packages (resale):						
26474 45	Facial tissue type, 2 ply or more ----- do..	14	522.0	643.7	18	523.7	465.2
26474 47	Regular type, single ply ----- do..	12	719.0	1 003.9	13	644.2	568.1
26474 55	Interfolded and flat package ----- do..	5	39.5	50.8	5	*24.0	17.0
	Towels (rolled, folded, or interfolded):						
26474 71	Industrial ----- do..	12	618.8	590.3	11	445.6	276.5
	Retail packages (resale):						
26474 76	Single ply ----- do..	11	*262.8	328.3	6	203.1	179.3
26474 77	2 ply or more ----- do..	13	*510.5	722.0	13	552.6	549.4
26474 81	Wipers (windshield, industrial, and lithographic plate, except nonwoven) ----- do..	13	**99.1	141.9	8	56.1	56.1
26474 85	Absorbent pads ----- do..	4	**37.9	79.1	3	(S)	26.0
26474 98	Other sanitary health products, including toilet seat covers, bibs, headrests, tray covers, etc. ----- do..	19			11		
26474 00	Sanitary tissue health products, n.s.k. ----- (NA)	(NA)	(X)	11.0	(NA)	(X)	13.4
26470 00	Sanitary paper products, n.s.k., typically for establishments with 10 employees or more (see note) ----- (NA)	(NA)	(X)	32.2	(NA)	(X)	7.3
26470 02	Sanitary paper products, n.s.k., typically for establishments with less than 10 employees (see note) ----- (NA)	(NA)	(X)	7.9	(NA)	(X)	18.3
	STATIONERY PRODUCTS						
2648— —	Total -----	(NA)	(X)	959.2	(NA)	(X)	630.5
26481 —	Stationery:						
26481 00	Stationery:						
	As reported in the census of manufactures -----	84	(X)	261.8	(NA)	(X)	141.2
	As reported in Current Industrial Report MA-26B, Selected Office Supplies and Accessories -----	(NA)	(X)	241.9	(NA)	(³)	(³)
26481 11	Boxed stationery and portfolios ----- mil units..	(NA)	113.4	100.1	30	(NA)	54.9
26481 13	Wedding and social announcements, paper, cards, and envelopes ----- do..	(NA)	1 748.7	73.5	16	(NA)	36.3
26481 15	Package paper and envelopes, noncommercial ----- do..	(NA)	(D)	(D)	26	(NA)	26.3
26481 19	All other ----- do..	(NA)	(D)	(D)	10	(NA)	16.1
26481 29	Stationery products, n.s.k. ----- do..	(NA)	(X)	32.2	(NA)	(X)	7.6
26482 —	Tablets, pads, and related products:						
26482 00	Tablets, pads, and related products:						
	As reported in the census of manufactures -----	90	(X)	603.1	(NA)	(X)	425.5
	As reported in Current Industrial Report MA-26B, Selected Office Supplies and Accessories -----	(NA)	(X)	593.4	(NA)	(³)	(³)
	Tablets and pads:						
26482 11	Legal pads, stitched, stapled or glued, whether or not perforated, of all sizes ----- mil units..	(NA)	327.0	81.5	22	(NA)	40.3
26482 13	Columnar pads, including bound and wirebound ----- do..	(NA)	34.3	31.6	}	(NA)	80.4
26482 14	School type tablets and pads ----- do..	(NA)	116.8	40.3			
26482 19	All other tablets and pads, including commercial and other nonschool uses ----- do..	(NA)	112.3	44.8	}	(NA)	124.6
26482 31	Notebooks, bound with wire, staples, thread, and plastics, including composition books and memo books, excluding case made ----- do..	(NA)	238.0	113.9			
26482 37	Stenographic books ----- do..	(NA)	51.3	18.6	}	(NA)	65.4
26482 41	Looseleaf fillers:						
26482 47	School type (100 sheet basis) ----- do..	(NA)	(S)	96.6	}	(NA)	
26482 47	Commercial type, excluding looseleaf forms (100 sheet basis) ----- do..	(NA)	(S)	4.4			
26482 51	Wrapped ream papers, excluding sensitized photographic and photocopying paper (500 sheet basis) ----- do..	(NA)	47.0	87.4	20	(NA)	60.7
26482 98	All other ----- do..	(NA)	(S)	14.0	17	(NA)	25.8
26482 99	Tablets, pads, and related products, n.s.k. ----- do..	(NA)	(X)	60.4	(NA)	(X)	28.2
26480 00	Stationery products, n.s.k., typically for establishments with 10 employees or more (see note) ----- (NA)	(NA)	(X)	67.0	(NA)	(X)	54.3
26480 02	Stationery products, n.s.k., typically for establishments with less than 10 employees (see note) ----- (NA)	(NA)	(X)	27.4	(NA)	(X)	9.5
	CONVERTED PAPER PRODUCTS, N.E.C.						
2649— —	Total -----	(NA)	(X)	2 436.1	(NA)	(X)	1 748.8
26493 —	Wallcoverings -----	(NA)	(X)	396.9	(NA)	(X)	306.5
	Paper:						
26493 21	Nonstrippable (produced on a conventional hanging stock) ----- 1,000 rolls..	19	**23 979.7	35.5	19	**33 605.3	42.2
26493 23	Nonwoven and combinations thereof, dry strippable ----- do..	19	28 311.5	85.6	10	**22 192.4	45.4
26493 25	Plastics coated or laminated to 1 mil of vinyl or more ----- do..	21	16 992.9	49.8	18	(S)	48.0
26493 31	Fabric, plastics coated or laminated, woven or nonwoven ----- do..	20	(S)	185.9	18	(S)	157.4
26493 41	Other wallcoverings including panel decorations, but excluding wallcoverings of materials other than fabric or paper ----- do..	17	(X)	11.2	7	(X)	8.0
26493 00	Wallcoverings, n.s.k. ----- do..	(NA)	(X)	28.8	(NA)	(X)	5.6

See footnotes at end of table.

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1982 and 1977—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text.]

Shipments in appendix. For meaning of abbreviations and symbols, see introductory text

1982 product code	Product	1982			1977		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
	CONVERTED PAPER PRODUCTS, N.E.C.—Con.						
26494 —	Gift wrap paper -----	(NA)	(X)	389.6	(NA)	(X)	¹⁰ 220.6
	Gift wrap paper, all types and basic weights; plain, printed by any process, and decorated including glitter, sequins, etc., generally defined as retail counter items, including coated papers, but excluding laminations to foil:						
26494 82	Rolls ----- 1,000 s tons... do...	29	73.3	226.2	24	(S)	140.1
26494 91	Folds -----	12	17.9	114.9	15	(S)	57.3
26494 96	Other gift wrapping, including counter rolls and flat sheets for stores' own use, and paper gift wrap materials shipped to other manufacturers for further processing in preparing a complete put-up package ----- do...	15	^{**} 16.1	42.7	(NA)	(S)	¹⁰ 14.8
26494 00	Gift wrap paper, n.s.k. -----	(NA)	(X)	5.9	(NA)	(X)	8.4
26496 —	Paper business machine supplies and other miscellaneous office supplies, n.e.c.:						
26496 00	Paper business machine supplies and other miscellaneous office supplies, n.e.c.:						
	As reported in the census of manufactures -----	45	(X)	221.8	(NA)	(X)	201.2
	As reported in Current Industrial Report MA-26B, Selected Office Supplies and Accessories -----	(NA)	(X)	200.3	(NA)	(³)	(³)
	Business machine supplies:						
26496 11	Rolls for adding and other business machines ----- mil units...	(NA)	268.2	75.3	24	(S)	97.5
26496 17	Other, including tapes, teletypes, etc. ----- do...	(NA)	17.3	10.5	17	(S)	30.2
26496 21	Manifold carbon paper sets (100 sheet basis) ----- do...	(NA)	(D)	(D)	3		
26496 33	Other miscellaneous paper and board office supplies, including safety paper ----- do...	(NA)	(D)	(D)	8	(S)	73.5
26496 39	Paper business machine supplies and other miscellaneous office supplies, n.e.c., n.s.k. -----	(NA)	(X)	48.7	—	(X)	—
26497 —	Other converted paper and board products -----	(NA)	(X)	1 082.6	(NA)	(NA)	¹⁰ 777.8
26497 11	Novelties, games, displays, and similar products:						
	Fine crepe paper, excluding creped wrapping ----- 1,000 s tons... do...	6	(S)	11.8	7	(S)	12.0
26497 21	Other ----- do...	17	(S)	92.9	14	(S)	48.0
26497 31	Industrial paper and board products:						
	Cellulose insulation ----- mil cu ft...	77	(S)	96.0	(NA)	(¹¹)	(¹¹)
26497 35	Laminated and tiled wallboard ----- mil sq ft 1/8 in. basis... -----	4	(S)	13.0	(NA)	(¹¹)	(¹¹)
26497 41	Miscellaneous paper products:						
	Dollies, place mats, and tray dollies (or tray covers) ----- 1,000 s tons... do...	18	30.5	70.1	20	^{**} 31.9	48.5
26497 45	Tags, unprinted ----- do...	20	(S)	31.8	18	(S)	42.0
26497 48	Folders and mounts, all types, except file folders ----- do...	10	(S)	15.7	6	(S)	8.3
	Paper filters:						
26497 51	Coffee ----- do...	4		54.5	(NA)	(¹¹)	(¹¹)
26497 55	All other ----- do...	11	(S)				
26497 61	Paper wrapping products, n.e.c., including creped wadding and crepe paper, excluding fine crepe paper ----- do...	28	(S)	91.3	(NA)	¹⁰ 28.5	¹⁰ 30.9
26497 69	Other miscellaneous paper and board products, including industrial products not elsewhere classified, labels (unprinted, except gummed), cigarette paper books, paper draperies, shelf paper, printed and unprinted, etc. ----- do...	150	(S)	503.7	(NA)	(S)	¹¹ 527.6
26497 00	Other converted paper and board products, n.s.k. -----	(NA)	(X)	101.8	(NA)	(X)	60.5
26490 00	Converted paper products, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note) -----	(NA)	(X)	302.7	(NA)	(X)	190.0
26490 02	Converted paper products, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note) -----	(NA)	(X)	42.5	(NA)	(X)	52.7

Note: In 1982 Census of Manufactures, data for establishments of small single-unit companies with up to 20 employees were estimated from administrative-record data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002". In both 1982 and 1977 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (five-digit) followed by "00" or to appropriate product group code (four-digit) followed by "000".

¹Data reported by all producers, not just those with shipments of \$100,000 or more.

²For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

³1981 was first year of publication for Current Industrial Report MA-26B, Selected Office Supplies and Accessories. Data shown in detailed product codes for 1977 are from 1977 Census of Manufactures report for this industry.

⁴Comparable quarterly data for related products are published in Current Industrial Report MQ-26F, Converted Flexible Packaging Products.

⁵For 1977, separate data not available for product classes 26419 and 2641A. 1982 product format was significantly revised from that used for 1977.

⁶Comparable data not available for 1977. 1981 was first year of publication for Current Industrial Report MA-26B, Selected Office Supplies and Accessories.

⁷For 1977, product code 26434 13 included shopping bags made from all materials. In 1982, shopping bags are classified by material in product codes 26435 00, 26436 18, 26436 23, and 26437 00 in addition to product code 26434 13.

⁸Comparable detailed data not available for 1977 because of extensive revision made to product format for 1982.

⁹For 1977, product code 26454 00 is included with product code 26453 59.

¹⁰For 1977, portion of product code 26494 96 which includes paper gift wrap materials shipped to other manufacturers for further processing in preparing a complete put-up package was included in product code 26497 61.

¹¹For 1977, product codes 26497 31, 26497 35, 26497 51, and 26497 55 were included in product code 26497 69.

Table 6b. Product Classes—Value of Shipments by All Producers for Specified States: 1982 and 1977

[Million dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1982. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Product class and geographic area	1982 value of product shipments	1977 value of product shipments	Product class and geographic area	1982 value of product shipments	1977 value of product shipments
26411, PRINTING PAPER COATED AT ESTABLISHMENTS OTHER THAN WHERE PAPER WAS PRODUCED			26434, GROCERS' BAGS AND SACKS, VARIETY, SHOPPING, UNCOATED		
United States	241.6	172.0	United States	1 163.8	(NA)
California	10.3	(AA)	California	93.9	(NA)
Illinois	23.0	(FF)	Florida	128.9	(NA)
Massachusetts	15.8	7.1	Massachusetts	11.5	(NA)
New Jersey	6.2	(BB)	New Jersey	78.0	(NA)
New York	2.7	(CC)	New York	110.0	(NA)
Ohio	11.0	(CC)	Oregon	51.1	(NA)
Pennsylvania	24.2	18.7	Tennessee	33.0	(NA)
Texas	6.5	(NA)	Texas	55.6	(NA)
Wisconsin	61.9	(CC)	Virginia	81.4	(NA)
			Washington	33.2	(NA)
26413, GUMMED PRODUCTS			26435, SPECIALTY BAGS AND LINERS, SINGLE WEB PAPER, COATED		
United States	211.9	187.7	United States	205.5	(NA)
California	8.0	(BB)	Florida	29.1	(NA)
New Jersey	41.2	(FF)	Illinois	37.8	(NA)
Ohio	47.0	35.2	Tennessee	13.7	(NA)
Pennsylvania	2.9	4.8			
Wisconsin	44.2	31.5			
26414, PRESSURE SENSITIVE PRODUCTS			26436, SPECIALTY BAGS AND LINERS, SINGLE WEB FILM		
United States	1 867.6	1 177.7	United States	1 964.0	(NA)
California	68.1	43.9	California	173.1	(NA)
Connecticut	3.9	(NA)	Florida	34.3	(NA)
Illinois	211.0	156.5	Georgia	135.7	(NA)
Massachusetts	58.4	56.0	Illinois	173.4	(NA)
Mississippi	9.9	(NA)	Indiana	83.9	(NA)
Missouri	14.2	(EE)	Kansas	22.8	(NA)
New Jersey	116.8	82.5	Massachusetts	70.4	(NA)
New York	92.0	52.6	Minnesota	3.0	(NA)
Ohio	223.7	168.3	Missouri	49.4	(NA)
Pennsylvania	184.4	125.3	New Jersey	132.5	(NA)
Tennessee	9.1	(AA)	New York	245.1	(NA)
Wisconsin	11.7	(CC)	North Carolina	29.2	(NA)
			Ohio	60.7	(NA)
26415, SINGLE WEB PAPER, COATED ROLLS AND SHEETS, INCLUDING WAXED, FOR PACKAGING USES			Pennsylvania	121.8	(NA)
United States	433.9	(NA)	Tennessee	34.2	(NA)
Illinois	18.9	(NA)	Texas	145.9	(NA)
Indiana	31.5	(NA)	Virginia	43.0	(NA)
Massachusetts	29.9	(NA)	Washington	43.0	(NA)
Michigan	15.6	(NA)	Wisconsin	88.1	(NA)
New Jersey	39.9	(NA)			
Ohio	24.2	(NA)	26437, SPECIALTY BAGS AND LINERS, MULTIWEB LAMINATIONS AND FOIL		
Pennsylvania	15.0	(NA)	United States	222.1	(NA)
Virginia	3.1	(NA)	Illinois	10.7	(NA)
Wisconsin	140.9	(NA)	Minnesota	3.5	(NA)
			North Carolina	6.8	(NA)
26416, SINGLE WEB FILM, COATED ROLL AND SHEETS, INCLUDING COEXTRUDED, FOR PACKAGING USES			Wisconsin	2.0	(NA)
United States	168.2	(NA)			
California	2.5	(AA)	26438, SHIPPING SACKS AND MULTIWALL BAGS, EXCEPT TEXTILES		
Georgia	11.1	(NA)	United States	846.5	672.6
Illinois	16.1	(NA)	Arkansas	102.3	82.6
Massachusetts	13.6	(NA)	California	50.5	58.8
			Georgia	101.9	66.4
26419, PAPER/PAPER MULTIWEB LAMINATIONS, FOR PACKAGING USES			Illinois	42.0	21.3
United States	182.3	(NA)	Iowa	37.5	21.9
California	15.5	(NA)	Louisiana	67.6	54.4
Illinois	30.9	(NA)	Missouri	53.9	46.2
Massachusetts	14.5	(NA)	New York	2.8	5.6
New Jersey	23.4	(NA)	Ohio	37.3	30.1
			Pennsylvania	27.0	25.5
2641A, MULTIWEB LAMINATED ROLLS AND SHEETS EXCEPT PAPER/PAPER AND FOIL, FOR PACKAGING USES			Tennessee	43.5	21.6
United States	544.8	(NA)	Texas	33.8	31.2
California	34.8	(NA)			
Illinois	78.0	(NA)	26453, DIE-CUT PAPER AND BOARD OFFICE SUPPLIES		
New York	4.0	(NA)	United States	597.9	(NA)
Ohio	2.8	(NA)	Alabama	2.0	(NA)
Pennsylvania	25.9	(NA)	California	66.4	(NA)
Tennessee	56.0	(NA)	Florida	3.1	(NA)
			Georgia	38.7	(NA)
2641B, OTHER COATED AND PROCESSED PAPER, EXCEPT FOR PACKAGING			Illinois	40.3	(NA)
United States	900.3	(NA)	Massachusetts	19.3	(NA)
California	24.5	(NA)	New Jersey	48.8	(NA)
Georgia	17.3	(NA)	New York	82.1	(NA)
Illinois	65.8	(NA)	North Carolina	18.9	(NA)
Massachusetts	90.0	(NA)	Ohio	47.0	(NA)
Michigan	48.0	(NA)	Pennsylvania	24.3	(NA)
New York	68.0	(NA)	Texas	34.8	(NA)
Ohio	17.3	(NA)	Wisconsin	8.7	(NA)
Washington	2.3	(NA)			

See footnotes at end of table.

Table 6b. **Product Classes—Value of Shipments by All Producers for Specified States: 1982 and 1977—Con.**

[Million dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1982. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Product class and geographic area	1982 value of product shipments	1977 value of product shipments	Product class and geographic area	1982 value of product shipments	1977 value of product shipments
26454, DIE-CUT PAPER AND BOARD PRODUCTS (OTHER THAN OFFICE)			26482, TABLETS, PADS, AND RELATED PRODUCTS		
United States	199.4	(NA)	United States	603.1	425.5
California	40.0	(NA)	California	35.7	21.6
Illinois	14.8	(NA)	Georgia	22.8	18.4
Massachusetts	3.5	(NA)	Illinois	30.3	24.8
Michigan	29.8	(NA)	Massachusetts	60.5	47.4
Minnesota	2.7	(NA)	Missouri	49.6	(FF)
New Jersey	5.4	(NA)	New Jersey	32.1	24.6
New York	34.2	(NA)	New York	33.2	20.5
Ohio	18.0	(NA)	Ohio	11.1	(BB)
Wisconsin	15.1	(NA)	Pennsylvania	40.9	33.3
			Texas	34.0	25.6
			Wisconsin	20.2	13.6
26455, PASTED, LINED, LAMINATED, OR SURFACE-COATED PAPERBOARD			26493, WALLCOVERINGS		
United States	684.8	438.4	United States	396.9	306.5
California	13.0	10.6	California	16.1	15.5
Illinois	45.6	19.2	Illinois	18.0	18.3
Michigan	35.8	(NA)	Massachusetts	30.6	(FF)
New Jersey	37.8	36.9	New Jersey	83.4	53.5
New York	10.0	17.1	New York	83.1	64.3
Pennsylvania	20.8	9.8	Pennsylvania	38.8	34.4
Wisconsin	41.1	(NA)			
26471, SANITARY NAPKINS AND TAMPONS			26494, GIFT WRAP PAPER		
United States	915.1	588.7	United States	389.6	(NA)
California	106.9	(FF)	Massachusetts	17.2	(NA)
			New York	6.8	(NA)
26473, DISPOSABLE DIAPERS, EXCEPT DIAPER LINERS, PAPER			Tennessee	115.4	(NA)
United States	2 158.5	(NA)	26496, PAPER BUSINESS MACHINE SUPPLIES, OFFICE SUPPLIES, N.E.C.		
California	324.4	(NA)	United States	221.8	(NA)
26474, SANITARY TISSUE HEALTH PRODUCTS			California	15.1	(NA)
United States	5 259.8	(NA)	Indiana	27.0	(NA)
California	268.5	(NA)	Massachusetts	17.9	(NA)
Illinois	3.5	(NA)	Pennsylvania	18.5	(NA)
New Jersey	90.9	(NA)	Texas	9.3	(NA)
New York	205.9	(NA)	26497, OTHER CONVERTED PAPER AND BOARD PRODUCTS		
Wisconsin	1 440.6	(NA)	United States	1 082.6	(NA)
26481, STATIONERY			Alabama	7.2	(NA)
United States	261.8	141.2	Arkansas	5.2	(NA)
California	7.5	5.3	California	99.3	(NA)
Illinois	44.0	10.7	Connecticut	10.6	(NA)
Iowa	2.4	2.6	Florida	18.0	(NA)
Massachusetts	31.1	20.2	Georgia	26.2	(NA)
New York	4.7	3.9	Illinois	54.1	(NA)
Ohio	5.7	3.1	Indiana	34.6	(NA)
Pennsylvania	16.8	11.6	Iowa	4.2	(NA)
			Kansas	34.1	(NA)
			Kentucky	3.2	(NA)
			Massachusetts	89.6	(NA)
			Michigan	26.8	(NA)
			Minnesota	16.3	(NA)
			Missouri	27.0	(NA)
			New Jersey	67.6	(NA)
			New York	80.8	(NA)
			North Carolina	30.5	(NA)
			Ohio	79.5	(NA)
			Oregon	6.8	(NA)
			Pennsylvania	113.2	(NA)
			Rhode Island	5.7	(NA)
			Tennessee	11.1	(NA)
			Texas	20.6	(NA)
			Virginia	50.3	(NA)
			Washington	7.9	(NA)
			Wisconsin	64.8	(NA)

Note: For 1977, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing data for individual companies: AA—less than \$2.0 but not 0; BB—\$2.0 to \$4.9; CC—\$5.0 to \$9.9; EE—\$10.0 to \$19.9; FF—\$20.0 to \$49.9; GG—\$50.0 or more.

Table 6c. Product Classes—Value Shipped by All Producers: 1982 and Earlier Years

[Million dollars. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

1982 product code	Product class	1982	1981 ¹	1980 ¹	1979 ¹	1978 ¹	1977	1972	1967
2641-	Coated and glazed paper	4 903.1	4 803.4	4 302.4	3 832.1	3 320.2	3 043.2	1 650.5	1 354.6
26411	Printing paper coated at establishments other than where paper was produced	241.6	269.3	233.4	233.6	217.7	172.0	111.8	125.3
26413	Gummed products	211.9	237.7	259.7	229.6	199.2	187.6	139.2	125.6
26414	Pressure sensitive products	1 867.6	1 857.3	1 649.5	1 502.7	1 305.1	1 177.7	574.5	438.3
26415	Single web paper, coated rolls and sheets, including waxed, for packaging uses	433.9	2 297.7	2 043.0	1 757.4	1 514.9	1 277.0	773.7	637.7
26416	Single web film, coated roll and sheets, including coextruded, for packaging uses	168.2							
26419	Paper/paper multiweb laminations, for packaging uses	182.3							
2641A	Multiweb laminated rolls and sheets except paper/paper and foil, for packaging uses	544.8	141.4	116.8	108.8	(S)	228.9	51.3	27.7
2641B	Other coated and processed paper, except for packaging	900.3							
26410	Coated and glazed paper, n.s.k.	352.6							
26420	Envelopes, all types and materials (except stationery)	1 751.6	1 610.3	1 460.7	1 288.8	1 140.4	980.6	587.9	443.4
2643-	Bags, except textile bags	4 772.8	5 037.6	4 621.0	4 200.4	3 819.1	3 304.1	1 829.4	1 292.7
26434	Grocer's bags and sacks, variety, shopping, uncoated	1 163.8	4 182.2	3 819.1	3 376.1	2 787.6	2 251.9	1 312.6	934.2
26435	Specialty bags and liners, single web paper, coated	205.5							
26436	Specialty bags and liners, single web film	1 964.0							
26437	Specialty bags and liners, multiweb laminations and foil	222.1	805.8	760.2	781.6	714.0	672.6	428.5	316.4
26438	Shipping sacks and multiwall bags, except textiles	846.5							
26430	Bags, except textile bags, n.s.k.	370.9							
2645-	Die-cut paper and board	1 605.1	1 514.8	1 394.5	1 213.9	1 155.5	1 034.3	645.9	547.6
26453	Die-cut paper and board office supplies	597.9	826.5	745.3	671.5	517.3	484.9	342.9	346.6
26454	Die-cut paper and board products (other than office)	199.4							
26455	Pasted, lined, laminated, or surface-coated paperboard	684.8							
26450	Die-cut paper and board products, n.s.k.	123.0	112.3	119.3	76.8	163.4	111.0	31.7	33.3
26460	Pressed and molded pulp goods	242.3	246.2	209.2	216.7	221.6	239.6	161.6	142.7
2647-	Sanitary paper products	8 373.5	7 752.3	7 043.4	6 163.9	5 105.5	4 562.6	1 981.9	1 234.4
26471	Sanitary napkins and tampons	915.1	919.2	775.8	660.4	581.0	588.7	281.1	182.1
26473	Disposable diapers, except diaper liners, paper	2 158.5	6 793.0	6 283.8	5 420.3	4 475.2	3 948.3	1 692.7	1 040.6
26474	Sanitary tissue health products	5 259.8							
26470	Sanitary paper products, n.s.k.	40.1			(S)	(S)	25.6	8.1	11.7
2648-	Stationery products	959.2	896.6	840.8	751.5	717.7	630.5	421.5	310.3
26481	Stationery	261.8	268.4	235.4	190.0	171.1	141.2	118.1	(NA)
26482	Tablets, pads, and related products	603.1	569.4	535.6	497.7	463.7	425.5	219.6	(NA)
26480	Stationery products, n.s.k.	94.4	58.9	69.8	63.8	(S)	63.8	83.8	(NA)
2649-	Converted paper products, n.e.c.	2 436.1	2 412.1	2 255.1	2 103.9	1 808.7	1 748.8	661.8	493.0
26493	Wallcoverings	396.9	410.2	361.1	325.5	287.8	306.5	83.0	46.2
26494	Gift wrap paper	389.6	1 665.2	1 593.8	1 543.5	1 300.3	1 199.6	572.2	393.2
26496	Paper business machine supplies, office supplies, n.e.c.	221.8							
26497	Other converted paper and board products	1 082.6							
26490	Converted paper products, n.e.c., n.s.k.	345.2	336.7	300.1	234.9	(S)	242.7	6.6	53.6

¹Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period.

Table 7. Materials Consumed by Kind: 1982 and 1977

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1982 material code	Material	1982		1977	
		Quantity ¹	Delivered cost (million dollars)	Quantity ¹	Delivered cost (million dollars)
	INDUSTRY 2641, PAPER COATING AND GLAZING				
	Materials, parts, containers, and supplies	(X)	2 857.2	(X)	1 790.5
262105	Paper:				
	Own paper, produced at same location or other affiliated or associated mills	1,000 s tons	448.3	1 562.2	714.5
262106	Purchased (market) paper	do	316.9		
289101	Glues and adhesives	do	757.8		
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc.	do	211.2	(D)	(D)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	do	489.5	(D)	(D)
289301	Printing ink (complete formulations)	mil lb	(X)	(X)	195.2
291106	Petroleum wax	do	**37.4	32.9	35.9
265001	Paperboard containers, boxes, and corrugated paperboard	do	*49.1	(D)	(D)
	Aluminum foil:		(X)	(X)	41.1
335335	Plain	mil lb	*18.1	(D)	(D)
349702	Converted	do	**2.0	6.8	10.7
970099	All other materials and components, parts, containers, and supplies	(X)	675.6	(X)	390.5
971000	Materials, parts, containers, and supplies, n.s.k. ²	(X)	253.0	(X)	149.5

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1982 and 1977—Con.**

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1982 material code	Material	1982		1977	
		Quantity ¹	Delivered cost (million dollars)	Quantity ¹	Delivered cost (million dollars)
INDUSTRY 2642, ENVELOPES					
	Materials, parts, containers, and supplies -----	(X)	823.6	(X)	441.3
	Paper:				
262105	Own paper, produced at same location or other affiliated or associated mills ----- 1,000 s tons..	**47.9	28.8	44.1	19.5
262106	Purchased (market) paper ----- do..	**774.9	545.7	620.5	293.5
	Paperboard:				
263103	Purchased (market) paperboard ----- do..	**9.4	3.2	*13.1	*3.9
265001	Paperboard containers, boxes, and corrugated paperboard ----- do..	(X)	42.0	(X)	24.9
289101	Glues and adhesives ----- mil lb..	(S)	30.3	(S)	15.1
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes ----- do..	(X)	12.4	(X)	7.5
970099	All other materials and components, parts, containers, and supplies -----	(X)	74.4	(X)	35.5
971000	Materials, parts, containers, and supplies, n.s.k. ² -----	(X)	86.8	(X)	41.4
INDUSTRY 2643, BAGS, EXCEPT TEXTILE BAGS					
	Materials, parts, containers, and supplies -----	(X)	2 797.3	(X)	2 030.6
	Paper:				
262105	Own paper, produced at same location or other affiliated or associated mills ----- 1,000 s tons..	1 405.3	507.2	1 391.1	366.3
262106	Purchased (market) paper ----- do..	*1 873.9	733.5	*1 786.9	520.4
289101	Glues and adhesives ----- mil lb..	(S)	29.8	*122.0	24.1
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc. ----- do..	2 069.1	662.7	1 695.2	483.7
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes ----- do..	(X)	238.7	(X)	144.8
289301	Printing ink (complete formulations) ----- mil lb..	**53.5	69.5	*53.2	54.8
291106	Petroleum wax ----- do..	*8.3	2.9	9.2	2.2
265001	Paperboard containers, boxes, and corrugated paperboard ----- do..	(X)	86.4	(X)	53.2
	Aluminum foil:				
335335	Plain ----- mil lb..	2.7	4.8	8.0	7.9
349702	Converted ----- do..	**1.3	3.6	**1.9	3.8
970099	All other materials and components, parts, containers, and supplies -----	(X)	226.2	(X)	139.9
971000	Materials, parts, containers, and supplies, n.s.k. ² -----	(X)	232.0	(X)	229.5
INDUSTRY 2645, DIE-CUT PAPER AND BOARD					
	Materials, parts, and supplies -----	(X)	918.6	(X)	586.3
	Paper:				
262105	Own paper, produced at same location or other affiliated or associated mills ----- 1,000 s tons..	**149.2	71.6	63.2	22.7
262106	Purchased (market) paper ----- do..	**206.2	115.8	*195.9	98.4
	Paperboard:				
263102	Own paperboard, produced at same location or other affiliated or associated mills ----- do..	**614.0	286.2	644.7	159.2
263103	Purchased (market) paperboard ----- do..	**369.6	204.6	*281.5	105.3
265001	Paperboard containers, boxes, and corrugated paperboard ----- do..	(X)	23.2	(X)	14.9
289101	Glues and adhesives ----- mil lb..	(S)	9.0	**11.2	4.8
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes ----- do..	(X)	24.1	(X)	24.6
970099	All other materials and components, parts, containers, and supplies -----	(X)	89.5	(X)	69.9
971000	Materials, parts, containers, and supplies, n.s.k. ² -----	(X)	94.6	(X)	86.5
INDUSTRY 2646, PRESSED AND MOLDED PULP GOODS					
	Materials, parts, containers, and supplies -----	(X)	60.8	(X)	66.2
261101	Wood pulp used in making pressed and molded pulp products ----- 1,000 s tons..	(D)	(D)	(D)	(D)
941110	Waste paper, all types ----- do..	189.9	17.4	166.3	15.6
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes ----- do..	(X)	(D)	(X)	(D)
265001	Paperboard containers, boxes, and corrugated paperboard ----- do..	(X)	3.7	(S)	2.9
970099	All other materials and components, parts, containers, and supplies consumed -----	(X)	24.8	(X)	25.8
971000	Materials, parts, containers, and supplies, n.s.k. ² -----	(X)	1.1	(X)	1.3
INDUSTRY 2647, SANITARY PAPER PRODUCTS					
	Materials, parts, and supplies -----	(X)	4 294.4	(X)	2 686.3
	Paper:				
262105	Own paper, produced at same location or other affiliated or associated mills ----- 1,000 s tons..	3 214.9	1 992.9	1 915.9	651.3
262106	Purchased (market) paper ----- do..	**383.2	222.7	*1 735.5	936.1
263105	Paperboard, except that used for shipping ----- do..	**32.5	12.0	*38.2	14.9
261105	Wood pulp (air dry basis) ----- do..	1 268.6	611.6	773.2	251.3
289101	Glues and adhesives ----- mil lb..	*67.6	71.9	70.3	37.1
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc. ----- do..	129.7	17.3	(X)	97.7
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes ----- do..	(X)	158.3		

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1982 and 1977—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1982 material code	Material	1982		1977	
		Quantity ¹	Delivered cost (million dollars)	Quantity ¹	Delivered cost (million dollars)
	INDUSTRY 2647, SANITARY PAPER PRODUCTS— Con.				
289301	Printing ink (complete formulations) -----mil lb..	(S)	9.2	(S)	10.9
229710	Nonwoven fabric ----- mil sq yd..	*7 846.8	250.8	(S)	169.5
265001	Paperboard containers, boxes, and corrugated paperboard ----- do..	(X)	451.1	(X)	236.4
970099	All other materials and components, parts, containers, and supplies -----	(X)	458.5	(X)	246.8
971000	Materials, parts, containers, and supplies, n.s.k. ² -----	(X)	38.1	(X)	34.3
	INDUSTRY 2648, STATIONERY PRODUCTS				
	Materials, parts, and supplies -----	(X)	480.5	(X)	309.2
	Paper:				
262105	Own paper, produced at same location or other affiliated or associated mills ----- 1,000 s tons..	85.1	55.7	29.1	12.6
262106	Purchased (market) paper ----- do..	**362.2	219.2	395.0	185.2
	Paperboard:				
263102	Own paperboard, produced at same location or other affiliated or associated mills ----- do..	*1.4	.9	(D)	(D)
263103	Purchased (market) paperboard ----- do..	*49.9	26.3	**45.6	12.3
289101	Glues and adhesives ----- mil lb..	**4.8	2.5	*3.6	1.8
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc. ----- do..	(D)	(D)	(D)	(D)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes -----	(X)	7.6	(X)	5.9
289301	Printing ink (complete formulations) ----- mil lb..	**4	1.5	**3	.8
229710	Nonwoven fabric ----- mil sq yd..	(D)	(D)	(D)	(D)
265001	Paperboard containers, boxes, and corrugated paperboard -----	(X)	18.8	(X)	10.1
970099	All other materials and components, parts, containers, and supplies -----	(X)	49.7	(X)	16.2
971000	Materials, parts, containers, and supplies, n.s.k. ² -----	(X)	97.9	(X)	63.0
	INDUSTRY 2649, CONVERTED PAPER PRODUCTS, N.E.C.				
	Materials, parts, and supplies -----	(X)	1 097.4	(X)	807.1
	Paper:				
262105	Own paper, produced at same location or other affiliated or associated mills ----- 1,000 s tons..	**94.8	35.3	**31.5	8.6
262106	Purchased (market) paper ----- do..	**479.5	319.1	**392.7	194.9
	Paperboard:				
263102	Own paperboard, produced at same location or other affiliated or associated mills ----- do..	20.6	7.1	(S)	12.6
263103	Purchased (market) paperboard ----- do..	(S)	73.4	*144.8	41.6
190005	Waste paper, all types ----- do..	**350.9	13.7	(X)	(⁴)
289101	Glues and adhesives ----- mil lb..	(S)	8.5	**23.7	6.8
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc. ----- do..	*75.0	29.5	(S)	18.5
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes -----	(X)	14.3	(X)	28.7
289301	Printing ink (complete formulations) ----- mil lb..	**27.2	25.4	*16.5	11.7
229710	Nonwoven fabric ----- mil sq yd..	(S)	3.9	(S)	6.6
265001	Paperboard containers, boxes, and corrugated paperboard -----	(X)	25.0	(X)	20.6
	Aluminum foil:				
335335	Plain ----- mil lb..	2.7	4.5	5.8	4.7
349702	Converted ----- do..	**2.1	3.3	.7	1.3
970099	All other materials and components, parts, containers, and supplies -----	(X)	244.5	(X)	*146.4
971000	Materials, parts, containers, and supplies, n.s.k. ² -----	(X)	289.9	(X)	304.1

¹For some establishments, data have been estimated from central unit values which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

²Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

³Includes an insignificant amount of "Own paperboard" to avoid disclosing data for individual companies.

⁴For 1977, material code 190005 was included with material code 970099.

APPENDIX A.

Explanation of Terms

This appendix is in two sections. Section 1 includes items which were requested of all establishments that were mailed census of manufactures forms including annual survey of manufactures (ASM) forms. Note that this section also includes several items (number of establishments and companies, value added, classes of products, and specialization and coverage ratios) that were not included on the report forms but were derived from information collected on the forms. Section 2 covers supplementary items that were requested only from establishments included in the ASM sample. Results of the supplementary ASM inquiries are included in tables 3c and 3d of this report.

SECTION 1. ITEMS COLLECTED OR DERIVED BASED ON ALL CENSUS OF MANUFACTURES (INCLUDING ASM) REPORT FORMS

Number of establishments and companies—As discussed in the Introduction, a separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operates at different physical locations, even if the individual locations are producing the same line of goods, a separate report was requested for each location. If the company operates in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on the number of custodial employees, capital expenditures, inventories, or any shipments from inventories during the portion of the year the plant was in operation.

In this report, data are shown for establishments in operation at any time during the year. A comparison with the number of establishments in operation at the end of the year will be provided in the Introduction to Part 1 of the General Summary subject report.

Employment and related items—The regular report forms requested separate information on production workers as of a payroll period for each quarter of the year and on other employees as of the payroll period which included the 12th of March.

All employees—This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period ending nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production workers—This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All other employees—This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It includes sales (including driver salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office function, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment who are engaged in the construction of major additions or alterations to the plant and who are utilized as a separate work force.

In addition to reports sent to operating manufacturing establishments, information on employment during the payroll period which included March 12 and annual payrolls was also requested of auxiliary units (e.g., administrative offices, warehouses, and research and development laboratories) of multiestablishment companies. However, these figures are not included in the totals for individual industries shown in this report. They are included in the general summary and geographic area reports and in the final bound volumes as a separate category.

Payrolls—This item includes the gross earnings of all employees on the payroll of operating manufacturing establishments paid in the calendar year 1982. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers

of corporations, but excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payroll of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' Social Security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' supplemental labor costs, both those required by Federal and State laws and those incurred voluntarily or as part of collective bargaining agreements. (Supplemental labor costs are explained later in this appendix.)

As in the case of employment figures, the payrolls of separate auxiliary units of multiestablishment companies are not included in the totals for individual industries or industry groups.

Production-worker hours—This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

Cost of materials—This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (1) all raw materials, semifinished goods, parts, components, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year, (2) electric energy purchased, (3) fuels consumed for heat, power, or the generation of electricity, (4) work done by others on materials or parts furnished by manufacturing establishments (contract work), and (5) products bought and resold in the same condition. (See discussion of duplication of data below.)

Specific materials consumed—In addition to the total cost of materials, which every establishment was required to report, information was also collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. Information on the specific materials consumed is shown in table 7 if appropriate to the industry. Establishments consuming less than a specified amount (usually \$10,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which either administrative records or short forms were used was imputed as "not specified by kind." (See the Introduction for the importance of administrative records in the industry.)

Value of shipments—This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and resold without further

processing. Included are all items made by or for the establishments from materials owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of "all other costs" (including company overhead) and profit. (See discussion of duplication of data below.)

Individual products—As in previous censuses, data were collected for almost all industries on the quantity and value of individual products shipped. In the 1982 census program, information was collected on the output of approximately 11,000 individual product items. The term "product," as used in the census of manufactures, represents the finest level of detail for which output information was requested. Consequently, it is not necessarily synonymous with the term "product" as used in the marketing sense. In some cases it may be much more detailed and, in other cases, it is more aggregative. For example, "pharmaceutical preparations" was distributed into over 100 items; whereas, "motor gasoline" was reported as a single item.

Approximately 6,000 of the product items were listed separately on the 1982 census report forms. Data for about 5,000 products were obtained in the monthly, quarterly, or annual surveys comprising the Current Industrial Reports series of the Census Bureau. Totals for the year 1982 for these items, as derived from the commodity surveys, are shown in the "products shipped" table (table 6a) together with the tieline total value collected in the census for reconciliation purposes.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1977 information is presented for most products.

Typically, both quantity and value of shipments information was collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers was also collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant was collected. Typically, the information on production was also collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

Classes of products—To summarize the product information, the separate products were aggregated into classes of products that, in turn, were grouped into all primary products of each industry. The code structure used is a seven-digit number for the

individual product, a five-digit number for the class of product, and a four-digit number for the total primary products in an industry. (See Introduction, Industry Classification of Establishments, for application of the coding structure to the assignment of SIC codes for establishments.)

In the 1982 census, the 11,000 products were grouped into approximately 1,500 separate classes on the basis of general similarity of manufacturing processes, types of materials used, and the like. However, the grouping of products was affected by the economic significance of the class and, in some cases, dissimilar products were grouped because the products were not sufficiently significant to warrant separate classes.

Duplication in cost of materials and value of shipments—The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication, since the products of some industries are used as materials by others. With some important exceptions, such as for motor vehicles and parts, this duplication is not significant at the four-digit industry level. However, it is significant at the two-digit and three-digit industry group level because these totals often include industries that represent successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the "Food" group and the addition of pulp mills to paper mills in the "Paper and Allied Products" group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the census of manufactures.

Value added by manufacture—This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

Because of the change in instructions for reporting inventories for 1982, the 1982 figure for value added is not strictly comparable to prior-year data. This is explained more fully in the inventories section below.

"Value added" avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

New and used capital expenditures—For establishments in operation and establishments under construction but not yet in operation, manufacturers were asked to report their new expenditures for (1) permanent additions and major alterations to manufacturing establishments, and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

The totals for new expenditures exclude that portion of expenditures leased from nonmanufacturing concerns, new facilities owned by the Federal Government but operated under

contract by private companies, and plant and equipment furnished to the manufacturer by communities and nonprofit organizations. Also excluded are expenditures for used plant and equipment (although reported in the census), expenditures for land, and cost of maintenance and repairs charged as current operating expenses.

Manufacturers were also requested to report the value of all used buildings and equipment purchased during the year at the purchase price. For any equipment or structure transferred to the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. Furthermore, if the establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported under used capital expenditures.

Total expenditures for used plant and equipment is a universe figure; i.e., it is collected on all census forms. However, the breakdown of this figure between expenditures for used buildings and other structures and expenditures for used machinery and equipment is collected only on the ASM form and is subject to sampling error (see table 3d). The data for total new capital expenditures, new building expenditures, and new machinery expenditures, as well as the data for total used expenditures, are shown in both tables 3a and 3d. The figure in table 3a is a census universe total and may differ from the results of the ASM sample shown in table 3d. Since the figures in table 3d are subject to sampling error, they are not considered as reliable as the universe figures.

End-of-year inventories—Respondents were asked to report their 1981 and 1982 end-of-year inventories at cost or market. Effective with the 1982 Economic Censuses, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). In 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Because of this change in reporting instructions, the 1982 data for inventories and value added by manufacture included in the tables of this report are not comparable to the prior-year data shown in table 1a of this report and in historical census of manufactures and annual survey of manufactures publications. Inventories and value added data estimated on a basis comparable to the historical data, using the reported information for 1982, are shown in footnote 4 of table 1a. However, the end-of-1981 figure shown in this footnote may differ from the corresponding value published as part of the 1981 Annual Survey of Manufactures.

This difference at the four-digit SIC level is due primarily to the effects of industry shifts. As described in the Industry Classification of Establishments section of the Introduction, ASM noncertainty plants are allowed to shift from one industry to another in a census year; whereas, they are "frozen" in a particular industry in ASM years. Other explanations for this difference include the effects of sampling and processing errors and revisions to end-of-1981 data reported by respondents.

In using inventory data by stage of fabrication for "all industries" and at the two-digit industry level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by another establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw

materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for individual industries, industry groups, and "all manufacturing," which are aggregates of figures reported by establishments in specified industries.

Specialization and coverage ratios—These items are not collected on the report forms but are derived from the data shown in table 5b. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

As noted in the Introduction, an establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary

products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in tables 1a through 5a and data on product shipments shown in tables 6a through 6c.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

SECTION 2. ITEMS COLLECTED ONLY ON ASM REPORT FORMS

Supplemental labor costs—Supplemental labor costs are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees. While the excluded items do benefit employees and all or part of their cost generally is similar to the items covered in the ASM labor costs statistics, accounting records do not generally provide reliable figures on net employee benefits of these types.

Cost of purchased services—ASM establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, and communication services. Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment, such as painting, roof repairs, replacing parts, and overhauling equipment. Such payments made to other establishments of the same company and for repair and maintenance of any leased property are also included. Extensive repairs or reconstruction that were capitalized are considered capital expenditures for used buildings and machinery and are, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force are also excluded.

The response coverage ratio shown in table 3d for each of the three types of purchased services listed above is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see section 3) for those ASM establishments that reported the

specific inquiry to the weighted total employment for all ASM establishments classified in the industry.

Electric energy used for heat and power—Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy and quantity of generated-less-sold electric energy were collected only on the ASM forms. The cost and quantity of purchased electric energy represent the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

Beginning- and end-of-year depreciable assets—The data encompass all fixed depreciable assets on the books of establishments at the beginning and at the end of the year. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are non-depreciable capital assets, including inventories and intangible assets, such as patent rights and royalties. Also excluded are land and depletable assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year, rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress. In addition, respondents were requested to make certain that assets at the beginning of the year plus new and used capital expenditures, less retirements, equalled assets at the end of the year.

New and used capital expenditures—The data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used capital expenditures are collected on all census forms. However, the breakdown between expenditures for used buildings and other structures and expenditures for used machinery and equipment is collected only on the ASM form. (See further explanation on capital expenditures in section 1.)

Breakdown of new capital expenditures for machinery and equipment—ASM establishments were requested to separate their capital expenditures for new machinery and equipment into (1) automobiles, trucks, etc., for highway use, (2) computers and peripheral data processing equipment, and (3) all other.

The category "automobiles, trucks, etc., for highway use" is intended to measure expenditures for vehicles designed for highway use that were acquired through a purchase or lease-purchase agreement. Vehicles normally operating off public highways (vehicles specifically designed to transport materials, property, or equipment on mining, construction, logging, and petroleum development projects) are excluded from this item.

The "not specified by kind" or n.s.k. item for expenditures for new machinery and buildings, shown in table 3d, represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories. This means that for most industries the specific categories are understated.

Retirements—Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during 1982. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent was also requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

Rental payments—This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets, and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company, and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

Depreciation charges—This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

APPENDIX B.

Annual Survey of Manufactures (ASM) Sampling and Estimating Methodologies

DESCRIPTION OF SURVEY SAMPLE

The Annual Survey of Manufactures (ASM) contains two components. The mail portion of the survey is a probability sample of about 55,000 manufacturing establishments selected from a total of about 225,000 establishments. These 225,000 establishments represent all manufacturing establishments of multiunit companies and all single-unit manufacturing establishments with five employees or more tabulated in the 1977 Census of Manufactures. This mail portion is supplemented by a Social Security Administration list of new manufacturing establishments opened after 1977. The individual establishments were defined as the sampling unit for this sample. This is a change from the previous ASM sample when companies were used as the sampling unit. The implication of this change is that the probability of selection of any establishment relates only to the size of the establishment itself and is independent of the size of the company with which the establishment is affiliated. The efficiencies associated with the change to an establishment sample have made it possible to reduce the mail sample panel from 70,000 establishments in 1978 to 55,000 establishments in the current panel.

The nonmail portion of the survey includes all single-unit establishments that were tabulated with less than five employees in the 1977 Census of Manufactures. Although this portion contained approximately 125,000 establishments, it accounted for less than 2 percent of the estimate for total value of shipments at the total manufacturing level. This portion was not sampled; rather, the data for every establishment in this group were estimated based on selected information obtained annually from the administrative records of other Federal agencies. This administrative record information, which includes payroll, total employment, industry classification, and physical location of the establishment, was obtained under special conditions, which safeguard the confidentiality of both tax and census records. Estimates for data for these small establishments were developed using industry averages in conjunction with the administrative information.

The corresponding estimates for the mail and nonmail establishments were added together, along with the adjusted base-year differences as defined in Description of Estimating Procedures below. The remaining description of the survey sample relates only to the mail portion of the ASM sample.

All establishments with 250 employees or more in the 1977 census were included in the survey panel with certainty. These establishments collectively account for approximately 65 percent of the total value of shipments for manufacturing establishments in the 1977 census. Smaller establishments were sampled with probabilities ranging from 1.000 down to 0.005 in accordance with mathematical theory for optimum allocation of a sample.

The probabilities of selection assigned to the smaller establishments were proportional to measures of size determined for each establishment. For establishments included in the 1977 Census of Manufactures, the measure of size depended directly upon each establishment's 1977 product class values and the

historic variability of the year-to-year shipments of each product class. Roughly equivalent measures of size were assigned to postcensus birth establishments based on their industry codes and anticipated payroll and employment.

The method of assigning measures of size was used in order to maximize the precision (that is, minimize the variance of estimates of the year-to-year change) in the value of product class shipments. Implicitly, it also gave weight to differences in employment, value added, and other general statistics, for these are highly correlated with value of shipments. Individual sample selection probabilities were obtained by multiplying each establishment's final measure of size by an overall sampling fraction coefficient calculated to yield a total expected sample size.

The sample selection procedure gave each establishment in the sampling frame an independent chance of selection. This method of independent selection permits the rotation of establishments into and out of a given sample panel without introducing a bias into the survey estimates.

DESCRIPTION OF ESTIMATING PROCEDURES

Most of the ASM estimates for the years 1978-1981 were computed using a modified "difference estimate" formula. For each item, a base-year difference was developed. This base-year difference is equal to the difference between the 1977 census published number for an item total and the linear ASM estimate of the total for 1977. The ASM linear estimate was obtained by multiplying each sample establishment's data by its sample weight (the reciprocal of its probability of selection) and summing the weighted values.

This base-year difference was then adjusted to reflect the estimated growth at the four-digit or, in the case of product classes, five-digit based Standard Industrial Classification (SIC) level from 1977 to the year of the survey; for example, 1981. It should be noted that due to processing constraints, the growth factors lagged one year; i.e., if 1981 is the survey year, they were not based on the estimated growth from 1977 to 1981 but rather the growth from 1977 to 1980. This one-year lag had negligible effect on the estimates, particularly at the total manufacturing level where the adjusted base-year difference accounted for less than 1 percent of the estimate for total value of shipments.

These adjusted base-year differences were then added to the corresponding current-year linear estimates, which include the sum of the estimates for the mail and nonmail establishments, to produce the estimates for the years 1978-1981. Estimates developed by this procedure usually are far more reliable than comparable linear estimates developed from the current sample data alone.

The 1982 sample data included in table 3d were also developed using difference estimates. However, since the universe totals for the census year (1977 or 1982) were not known, a modification of the procedure described above was necessary. For each item in table 3d, except purchased services and breakdown of expenditures for new machinery and equipment (see further description in appendix A, section 2), linear

estimates of the publication totals from the ASM mail sample were adjusted by the difference between imputed census totals and the corresponding ASM mail sample estimates of these imputed totals. These imputed totals are obtained by applying industry average ratios to control item values at the establishment level. For example, an imputed total beginning assets figure is obtained by multiplying each establishment's total value of shipments by the industry (four-digit SIC) average for the ratio of beginning assets to shipments.

Separate estimates for the nonmail establishments were not developed. However, their contribution to the publication estimates is reflected in the difference adjustment.

The method of inventory valuation percentages included in table 3c was developed using both complete census information and ASM estimates. The percentages for the four major categories (LIFO, non-LIFO, valuation method not reported, and LIFO reported without associated value and reserve) were derived from the complete census and correspond to the values included in table 3d. The percentages for the specific non-LIFO methods of valuations (FIFO, average cost, specific costs, etc.) are ratio estimates developed from the ASM in conjunction with the census universe estimate for the total of the non-LIFO methods.

QUALIFICATIONS OF THE DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sampled lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the differences between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of the estimates.

The particular sample selected for the ASM is one of a large number of similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretical, comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected statistics in this report. Except for table 3c, they are presented in the form of relative standard errors, the standard errors divided by the estimated values to which they refer. In table 3c, "absolute" standard errors of the estimates are presented.

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete coverage value would be included in the range:

1. From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

2. From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

3. From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown as 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total and about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors would also occur if a complete canvass were to be conducted under the same conditions as the survey.

Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected in the course of the Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or only moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown.

The concept of complete coverage under the conditions prevailing for the ASM is not identical to the complete coverage of the census of manufactures, as the censuses have been conducted. Nearly all types of operational errors that affect the ASM also occur in the censuses. The ASM and the censuses, are conducted under quite different conditions, and operational errors can be better controlled in the ASM than in the censuses. As a result, for many of the census figures, the errors are of the same order of size as the total errors of the corresponding annual survey estimates. The differences between the census and ASM operating conditions also disturb, to some degree, the comparability of the ASM and census data.

Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be of limited reliability. However, the figure may be combined with higher-level totals, creating a broader aggregate, which then may be of acceptable reliability.

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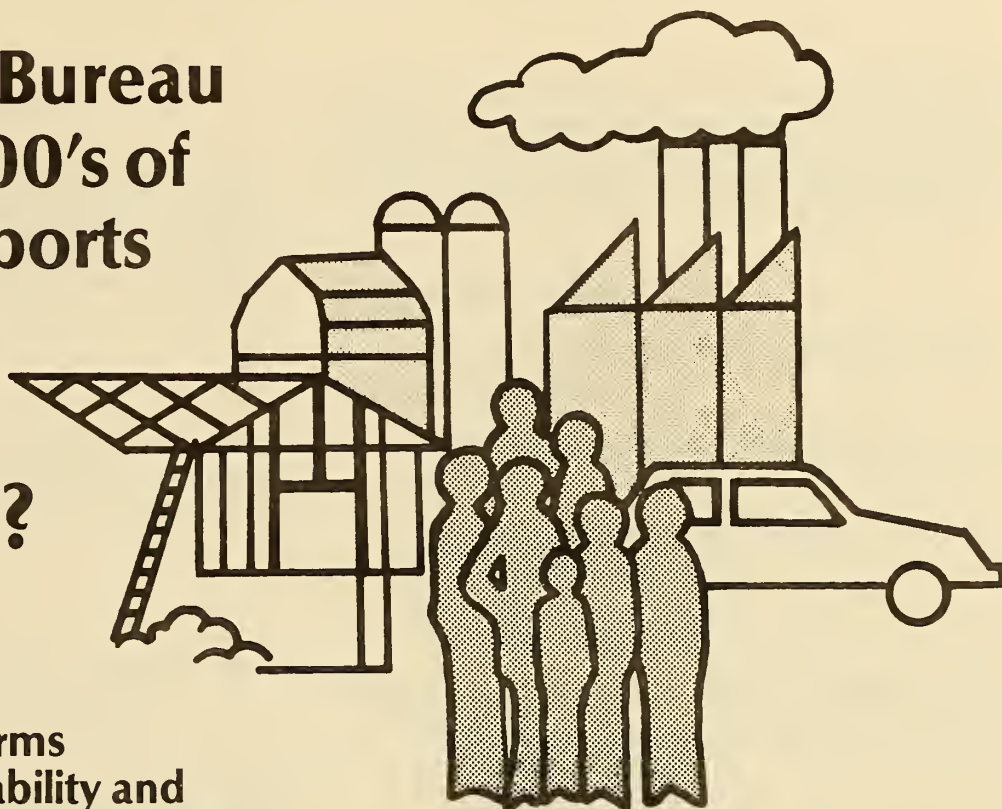
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- Volume I. Summary and Subject Statistics—data previously issued in series MC82-S.
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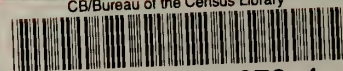
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